

ELEKTRONİK HOBİ DEVRELERİ

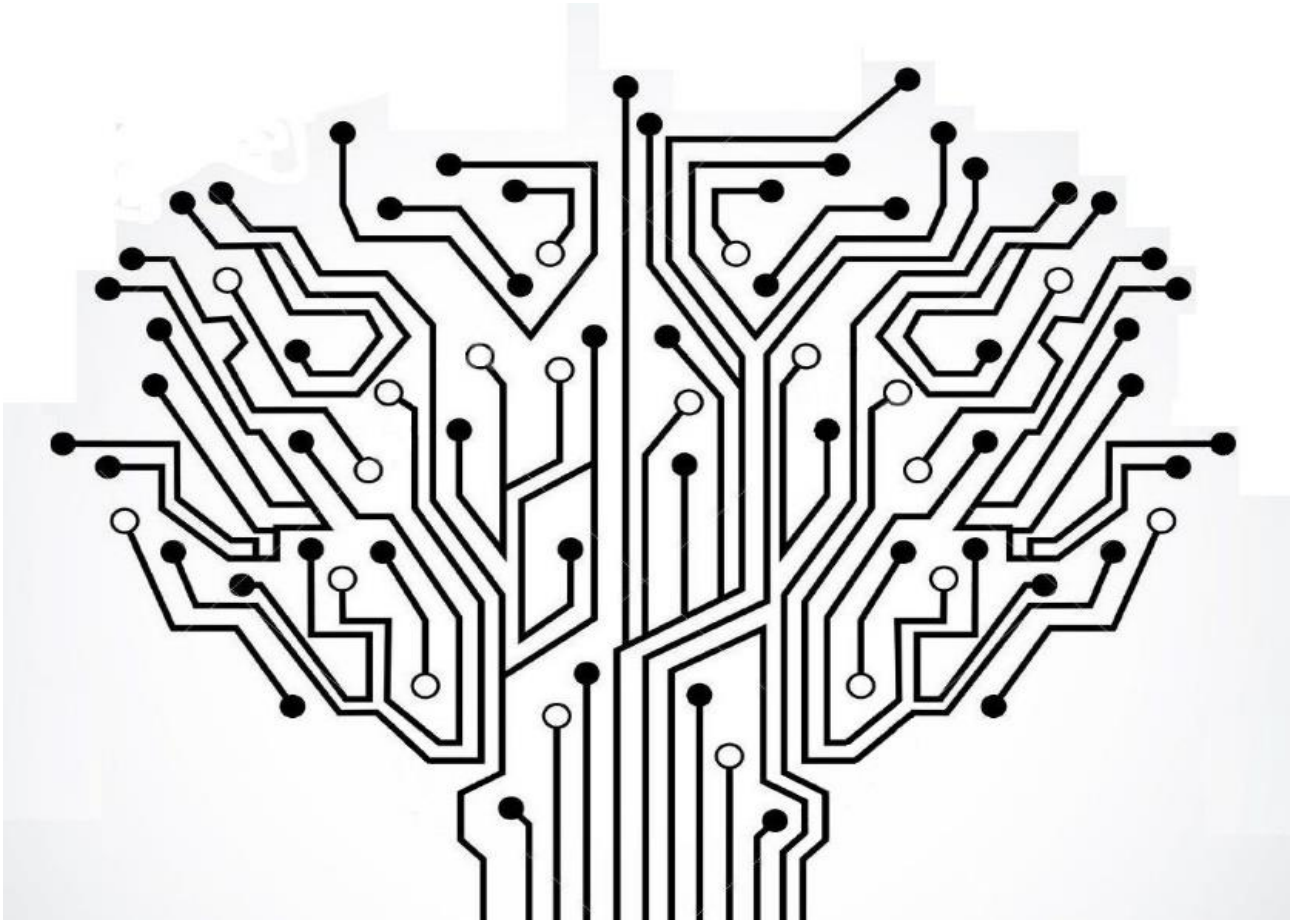
5

SURROUND SİSTEMLER (2+1 / 3+1 / 5+1 / Subwoofer)
AMPLİFİKATÖRLER (Entegre devreli - Transistörlü - Hibrit)

EKO - MİKSER

VU METRE

TEYP - PİKAP



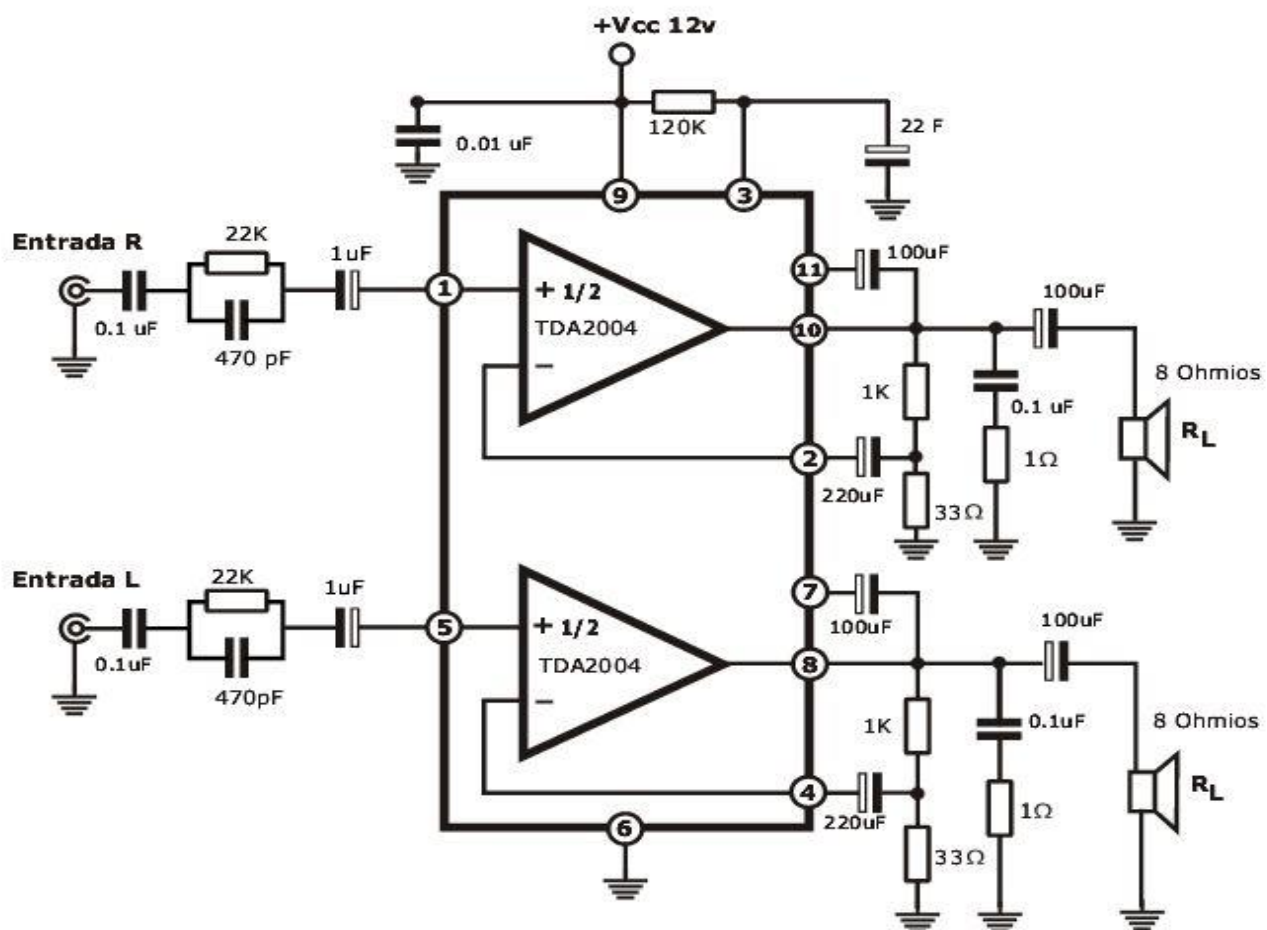
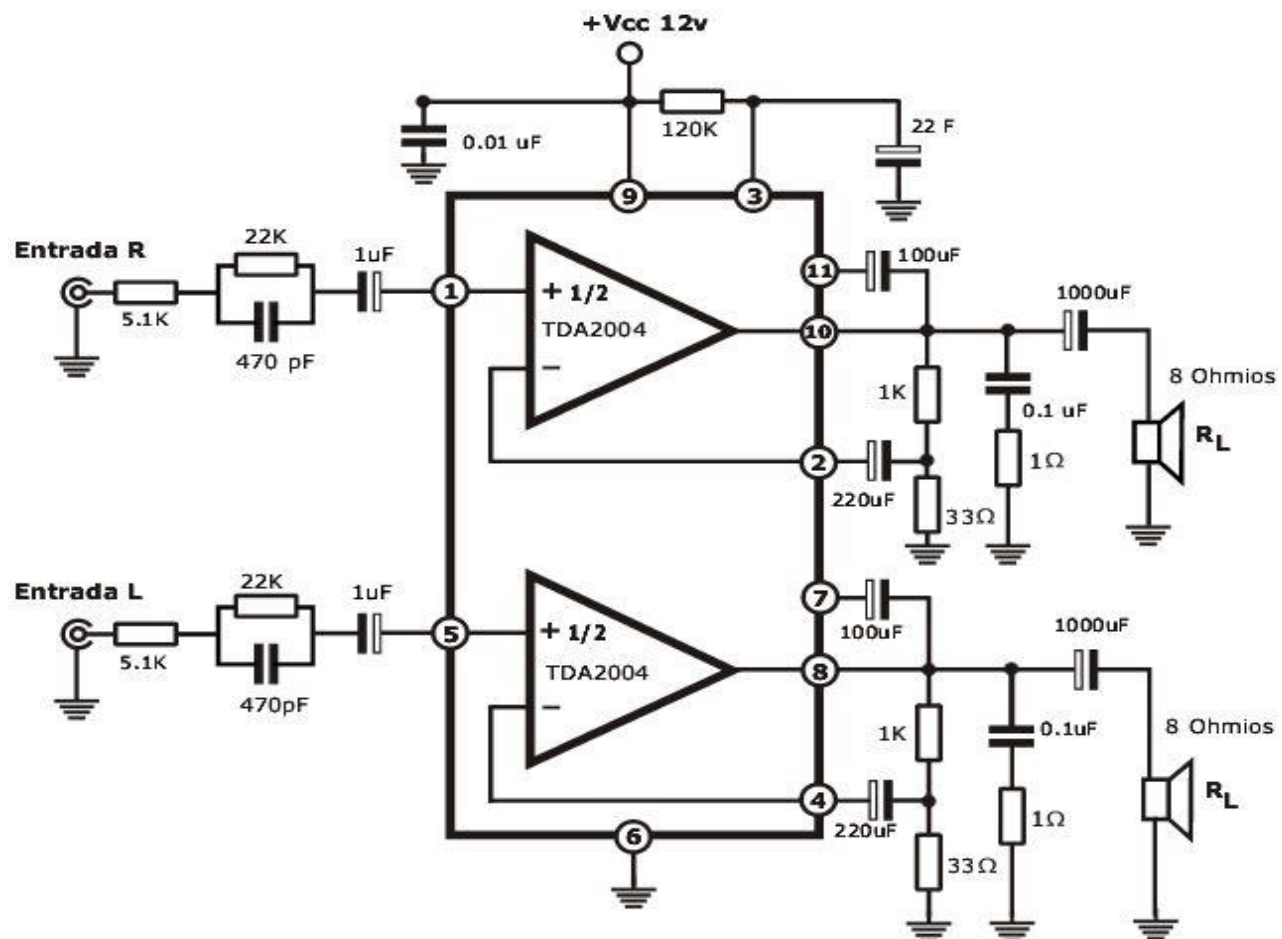
FAHRETTİN PETRİÇLİ

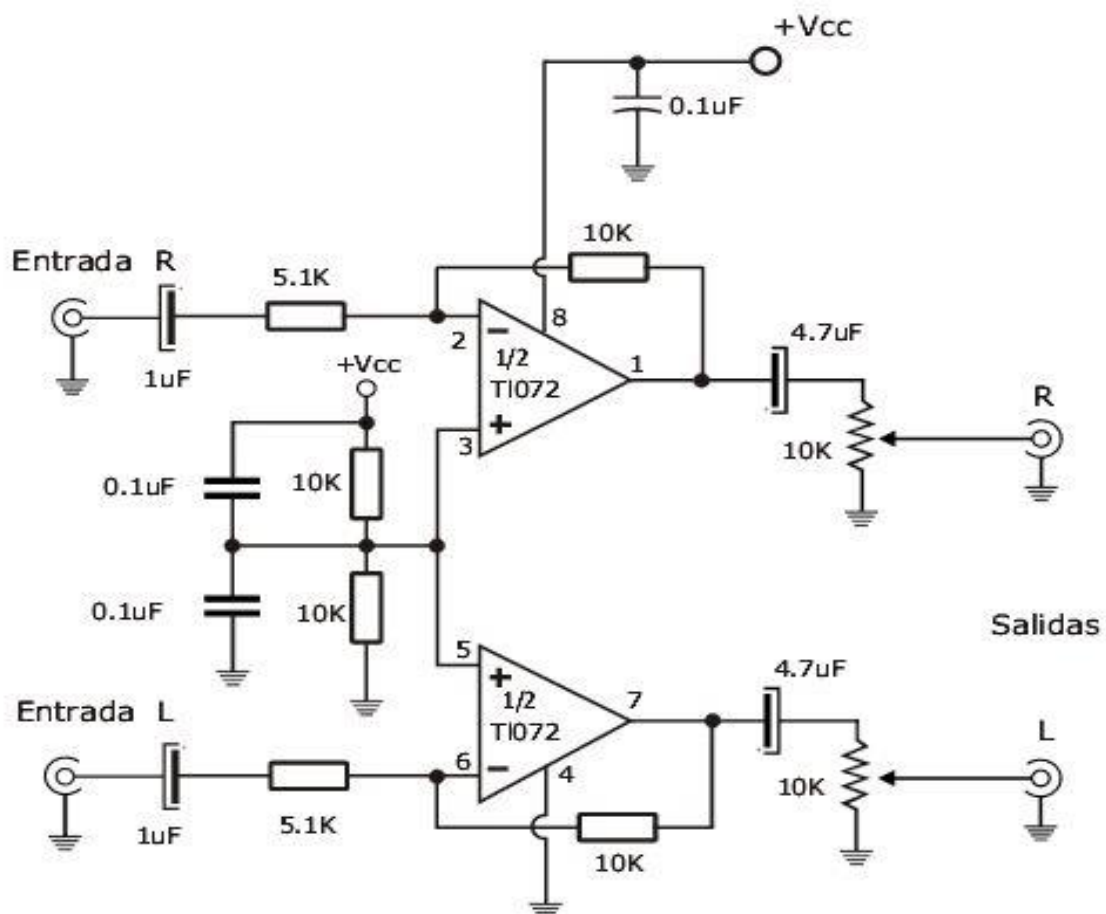
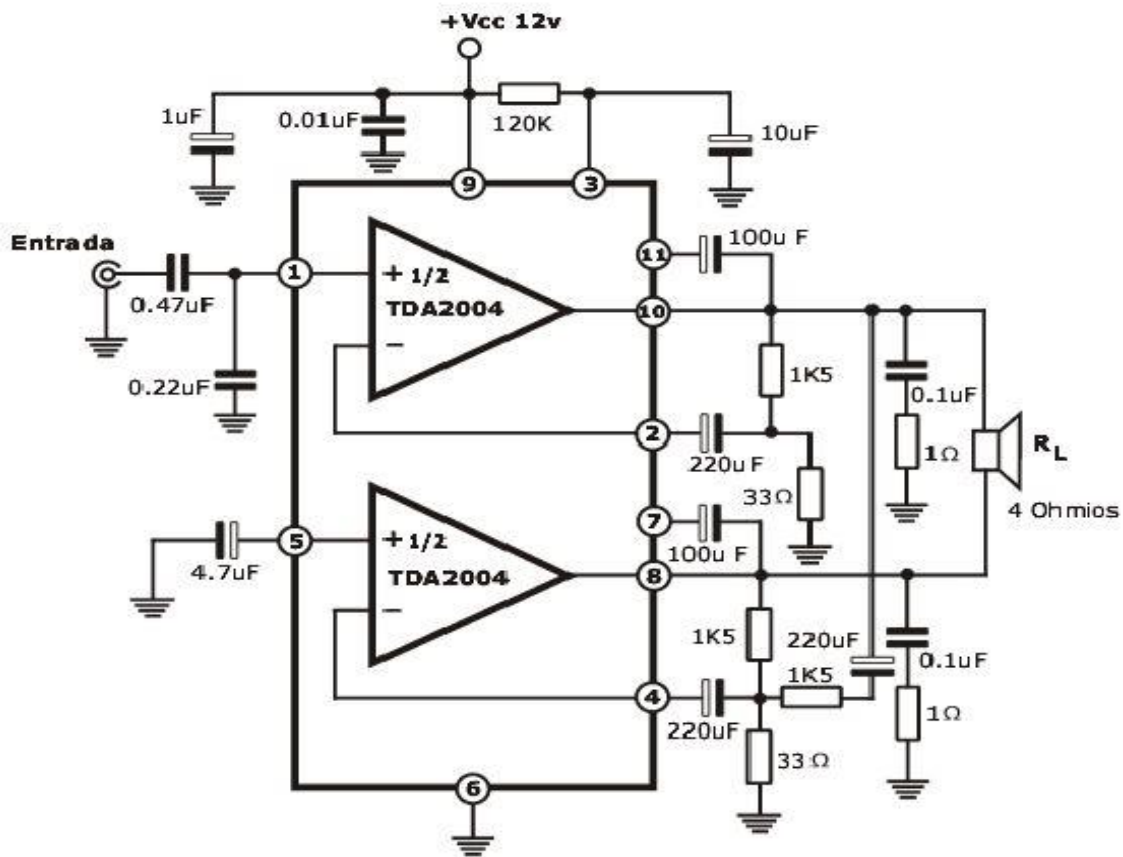
SURROUND SİSTEMLER

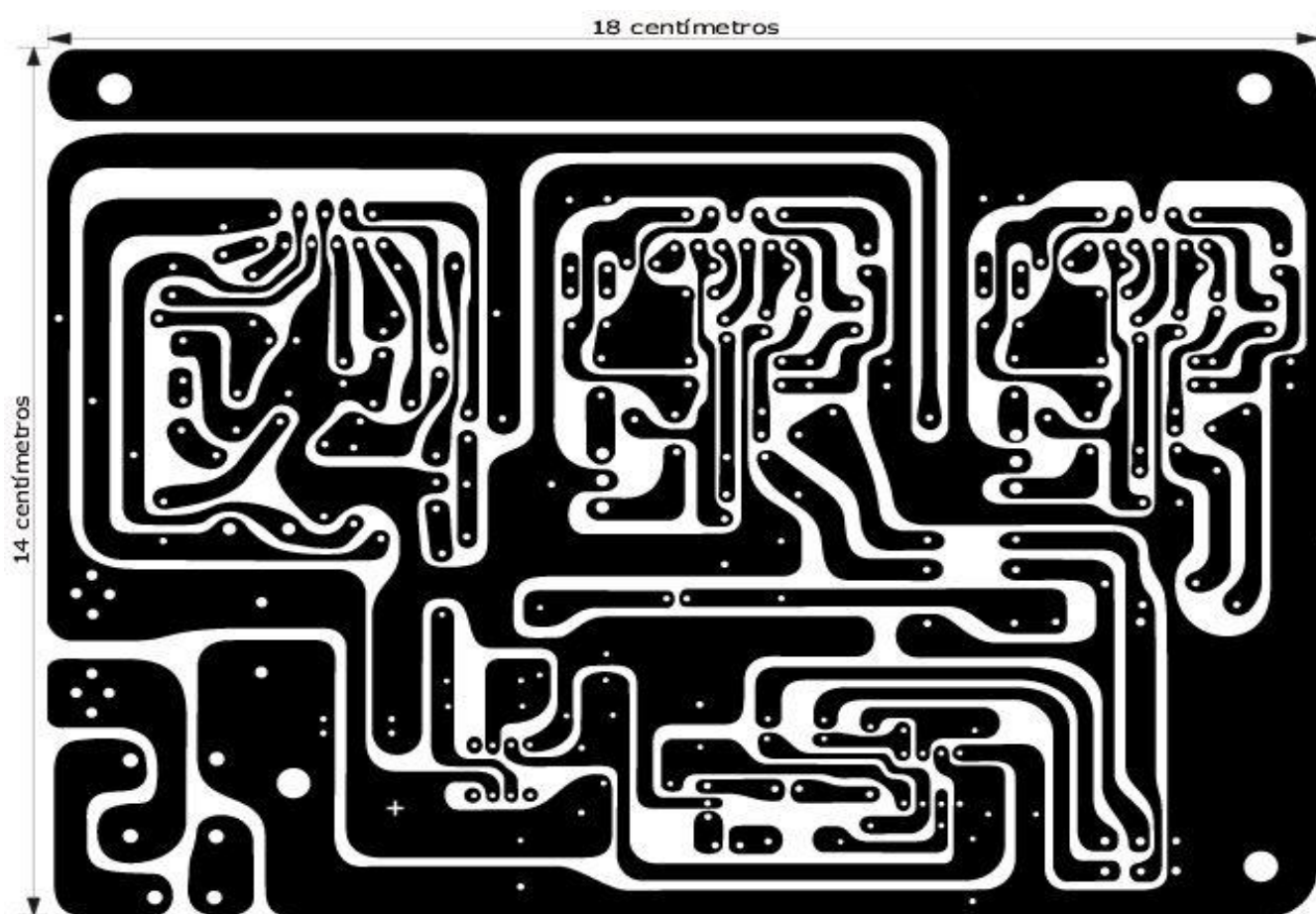
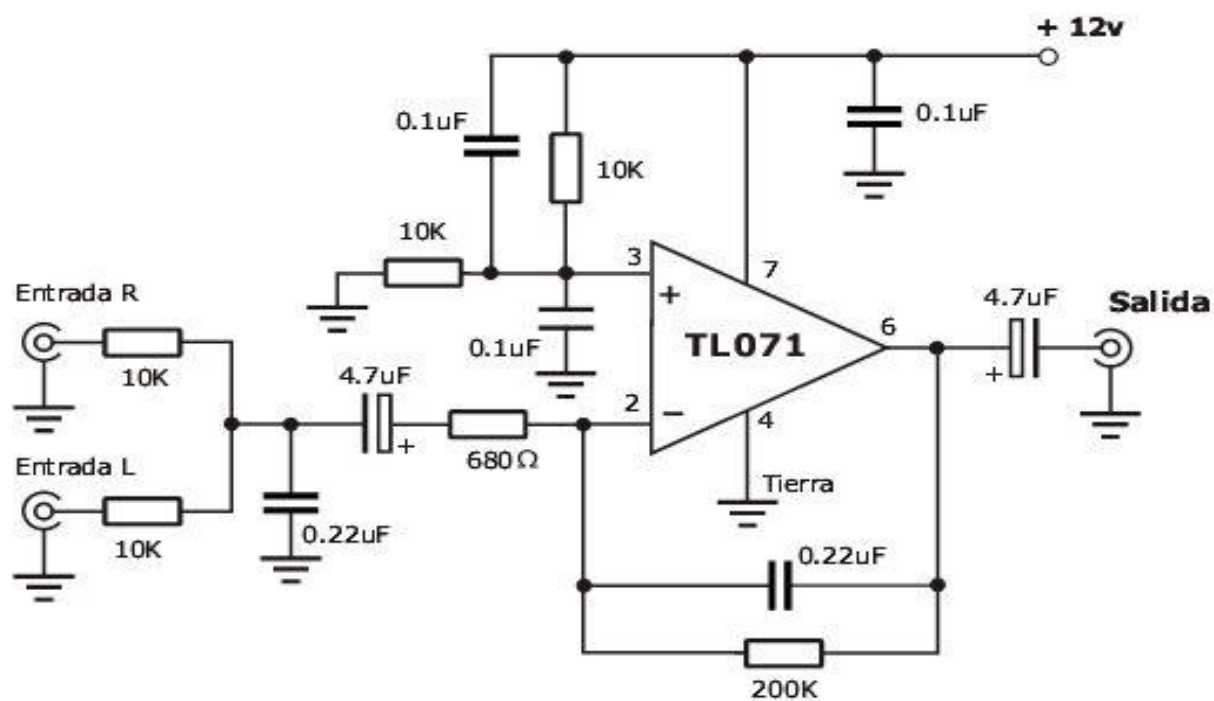
(2+1 / 3+1 / 5+1 / Subwoofer)

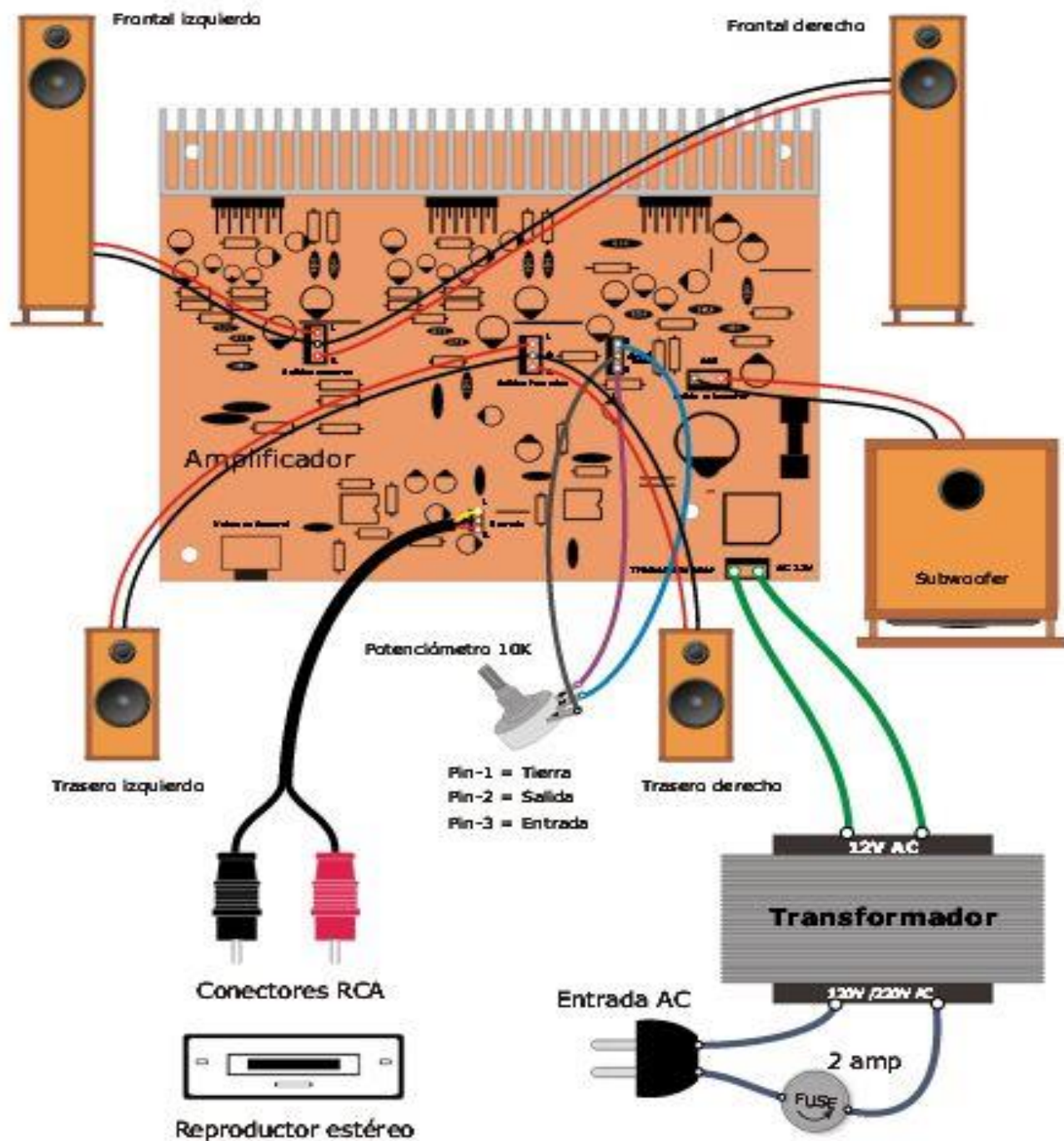


odyo ampli surround 2+1 01-01









Integrados

3 TDA2004

1 TI072

1 TL071

Condensadores

2 C 1000uF / 16v

9 C 100uF / 16v

7 C 220uF / 16v

1 C 10uF / 16v

5 C 1uF / 16v

2 C 22uF / 16v

5 C 4.7uF / 16v

11 C 100nF (104 poliéster)

2 C 100nF (104 cerámicos)

1 C 0.01uF (103 poliéster)

1 C 0.47uF (474 poliéster)

2 C 0.22uF (224 poliéster)

4 C 470pF (471 cerámico)

1 C 4700uF ó 6800uF / 25v

Varios

1 puente de diodos de 10 amperios

2 bases para integrados de 8 pines

1 Conector de 3 pines pequeño (GP)

4 conectores de 3 pines grande (molex)

1 Transformador de 12v 8Amp

1 Porta fusible y fusible de 5 Amp

1 potenciómetro de 10K doble

1 potenciómetro de 10K sencillo

2 conectores para baffle de presión dobles

1 conector para baffle de presión sencillo

1 conector RCA hembra doble

Cable para bafles

Cable blindado estéreo duplex.

1 Disipador de aluminio de 22 cms de largo por 5 cms de alto por 3 de profundidad. (Esto es aproximado)

3 tornillos de 1/8 con tuerca y arandela

Resistencias de 1/4W

6 R 1 Ohmio a 1/2W (café negro dorado)

3 R 120K (café, rojo, amarillo)

1 R 680 Ohmios (azul, gris, café)

4 R 1K (café, negro, rojo)

4 R 22K (rojo, rojo, naranja)

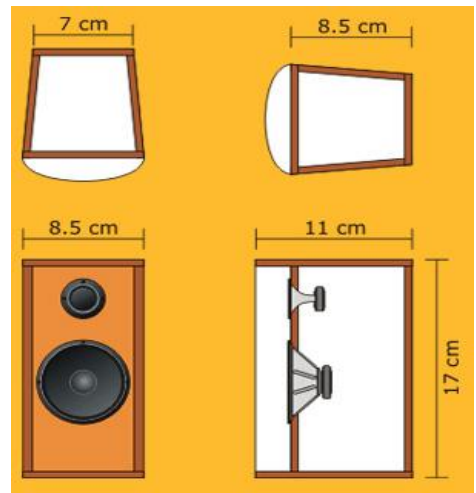
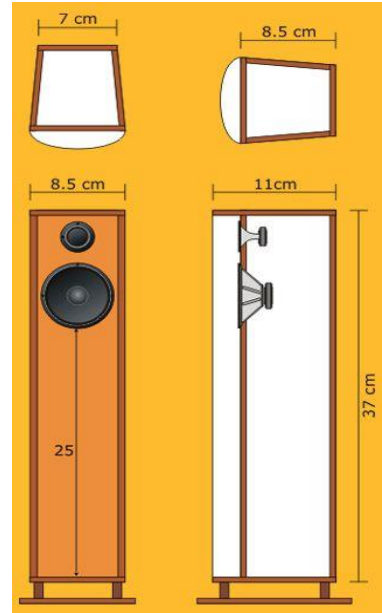
6 R 10K (café, negro, naranja)

4 R 5K1 (verde, café, rojo)

6 R 33 Ohmios (naranja, naranja, negro)

3 R 1.5K (café, verde, rojo)

1 R 200 K (rojo, negro, amarillo)

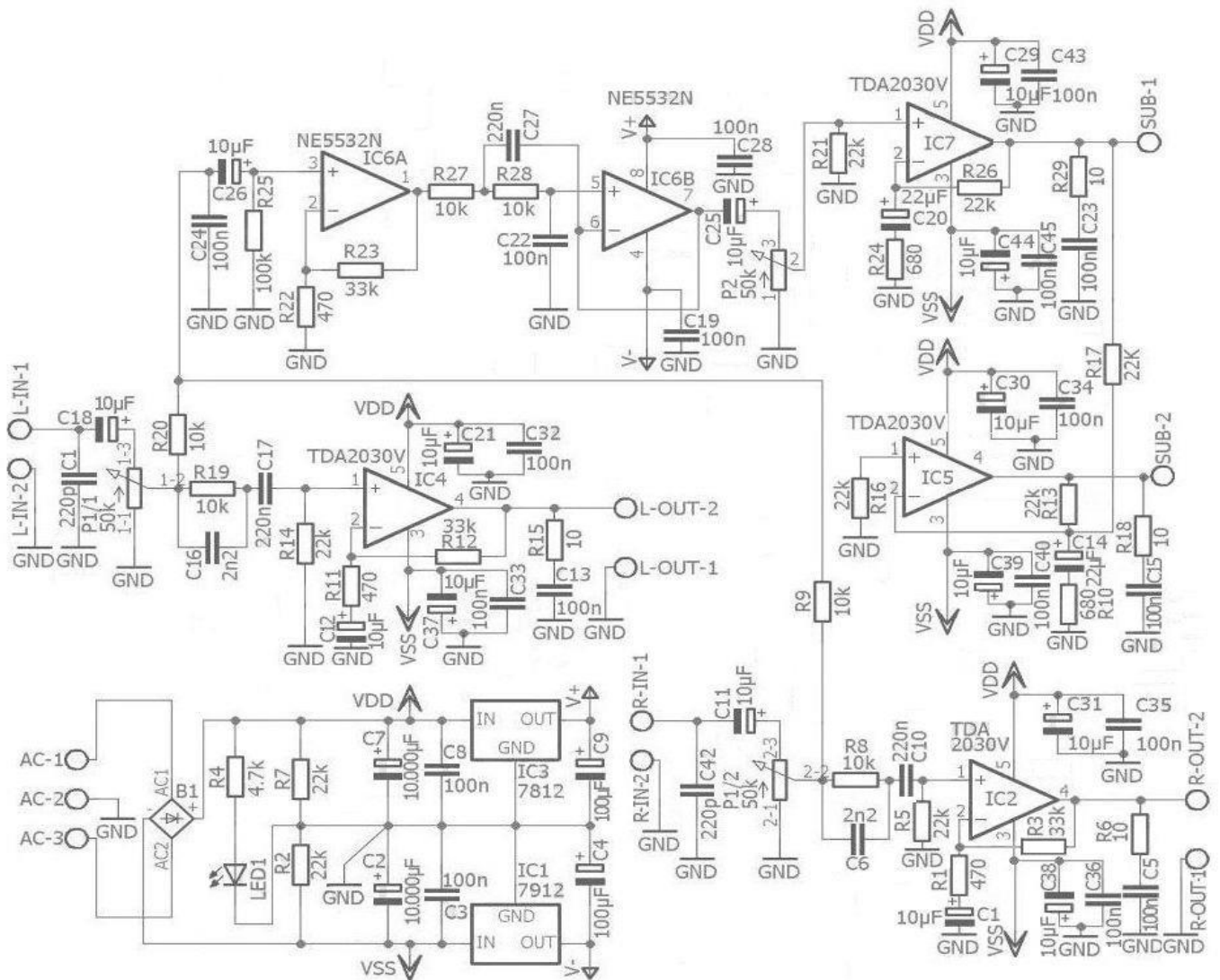


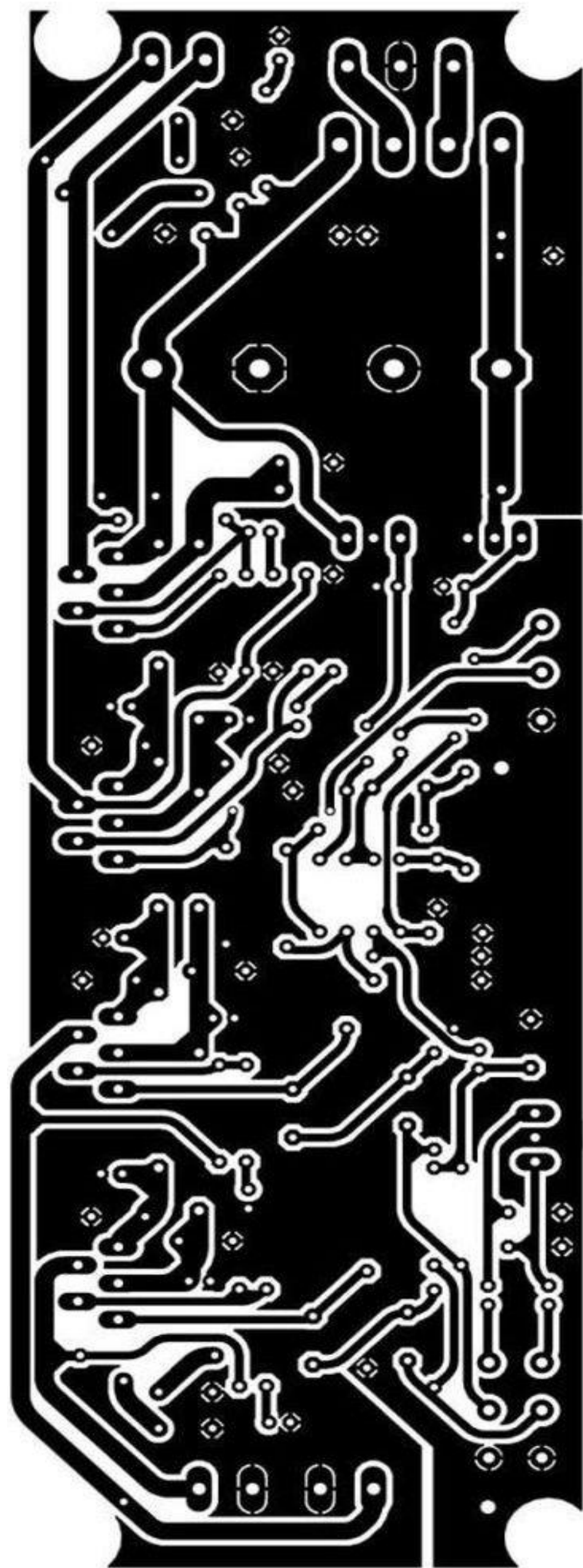
Condensador	Frecuencia mínima	Frecuencia máxima
330nF (334)	482,29 Hz	500hz
620nF (624)	256,7 Hz	250hz
820nF (824)	194,09 Hz	200hz
910nF (910)	174,9 Hz	180hz
1uF (105)	159,15 Hz	160hz
1.3uF	122,43 Hz	120hz
1.6uF	99,47 Hz	100hz

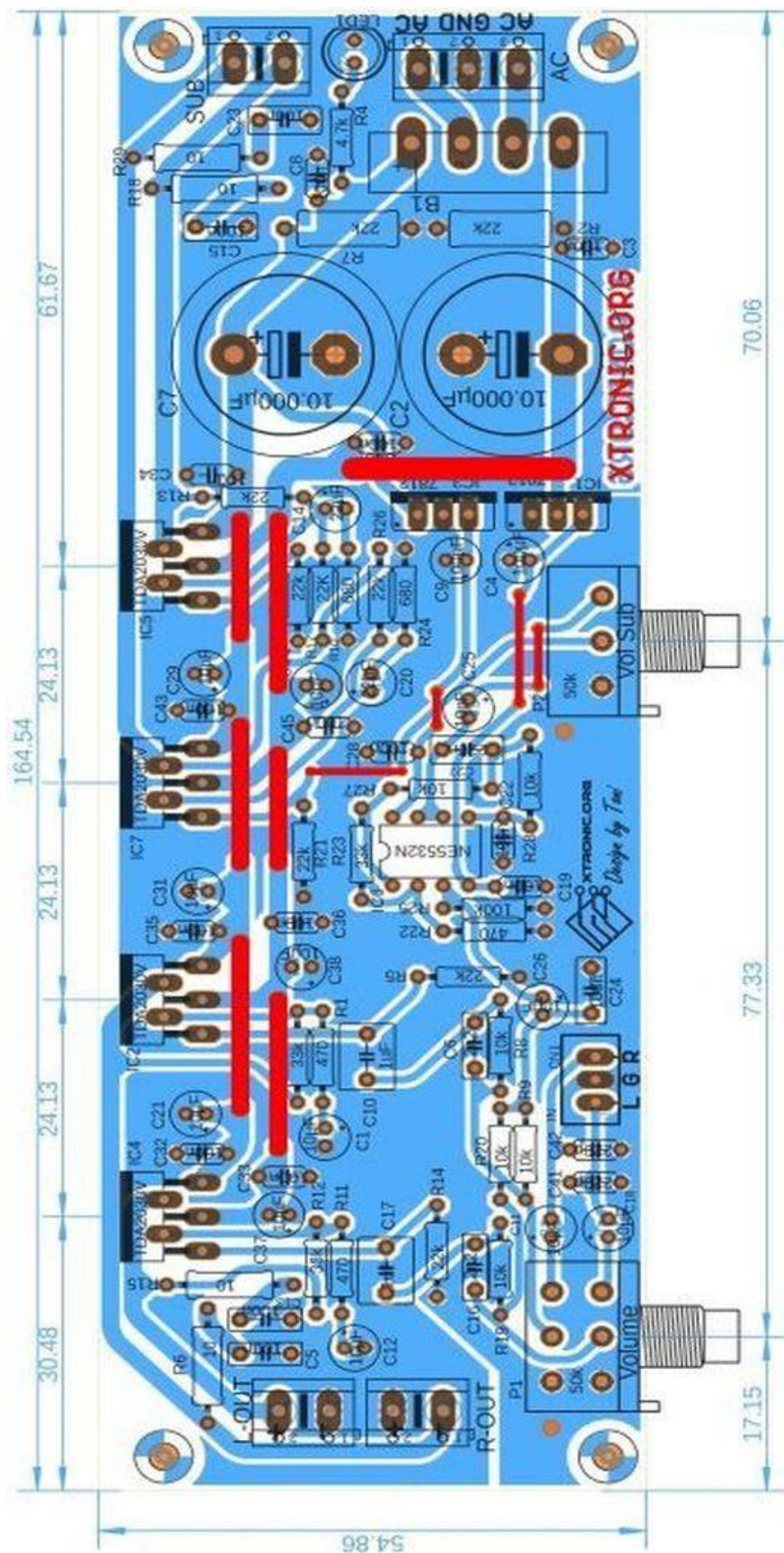


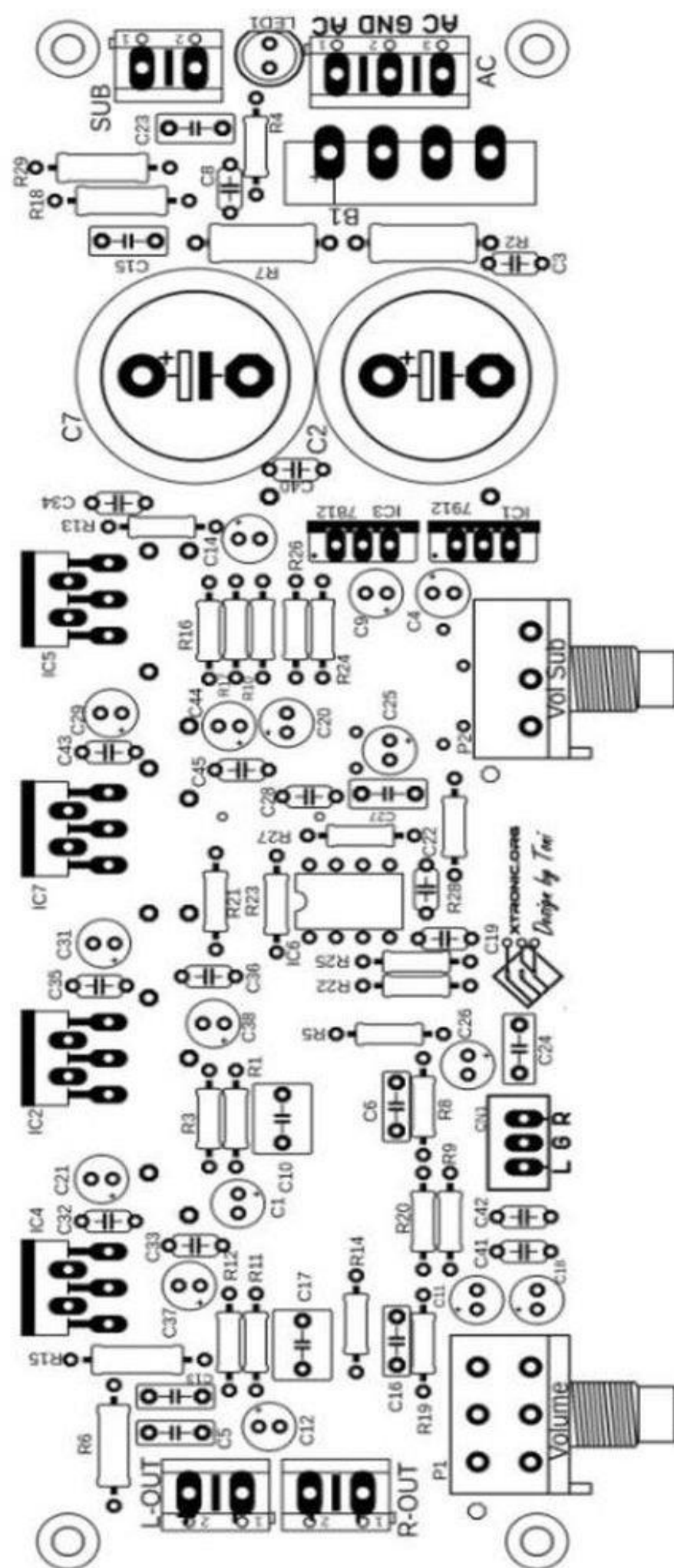


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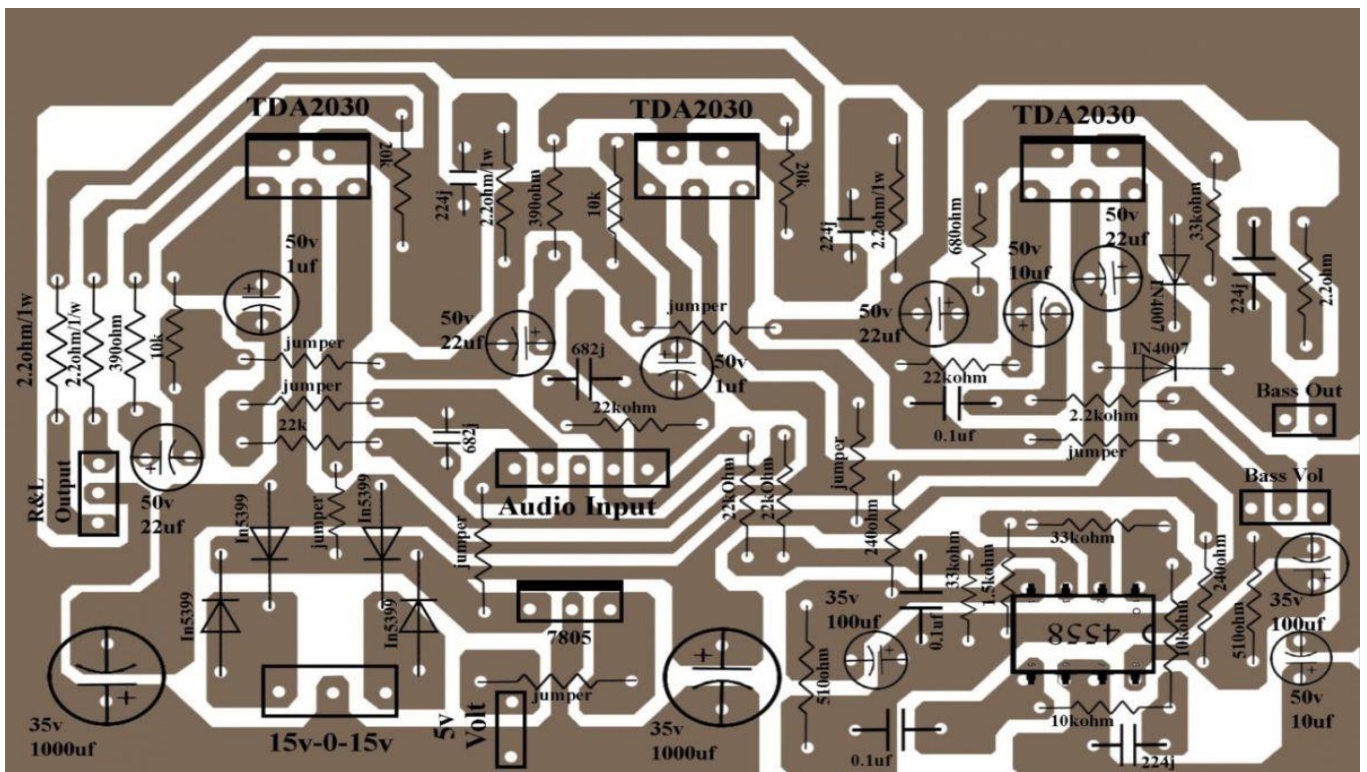
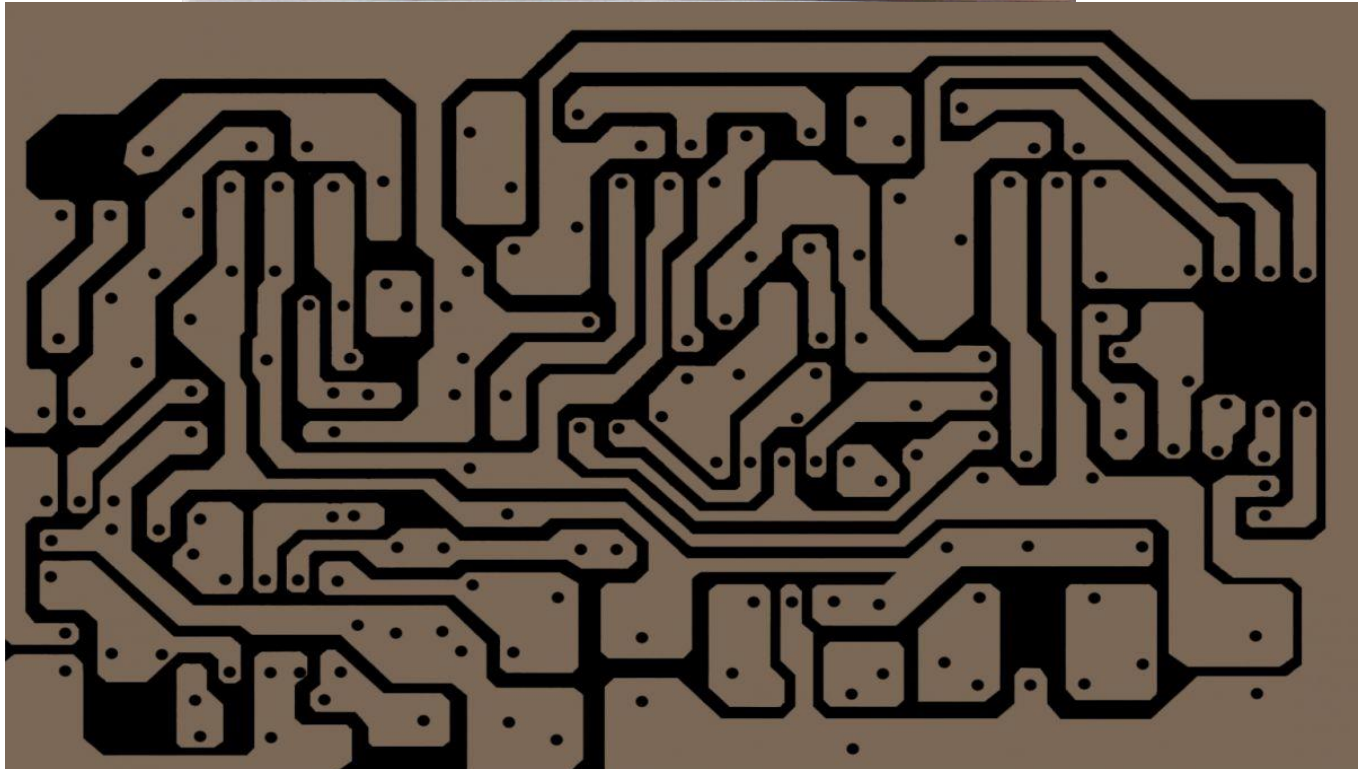
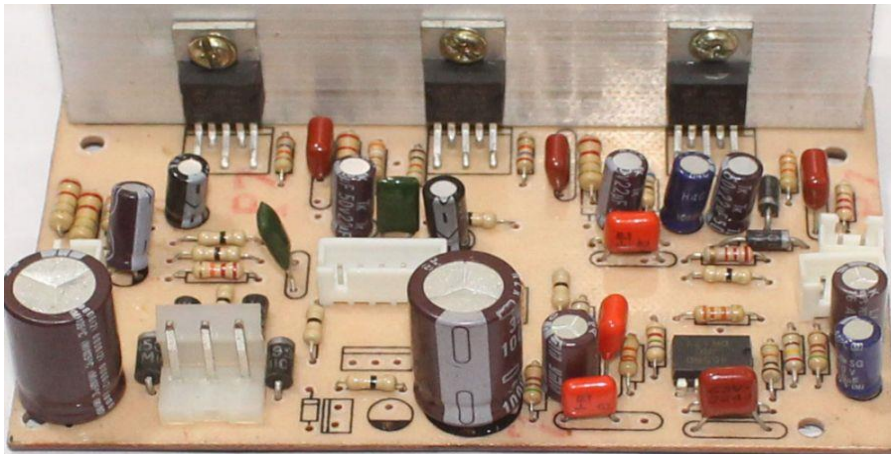




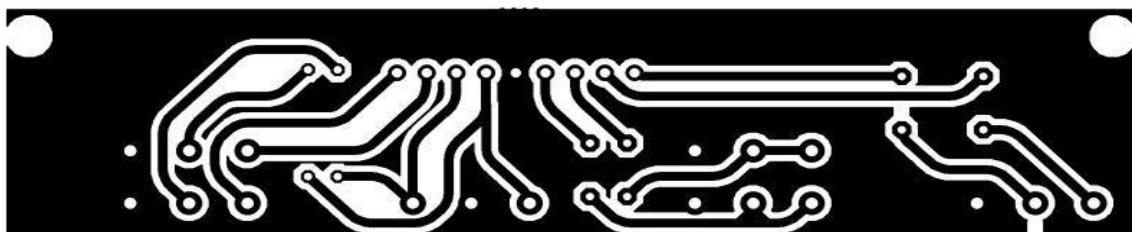
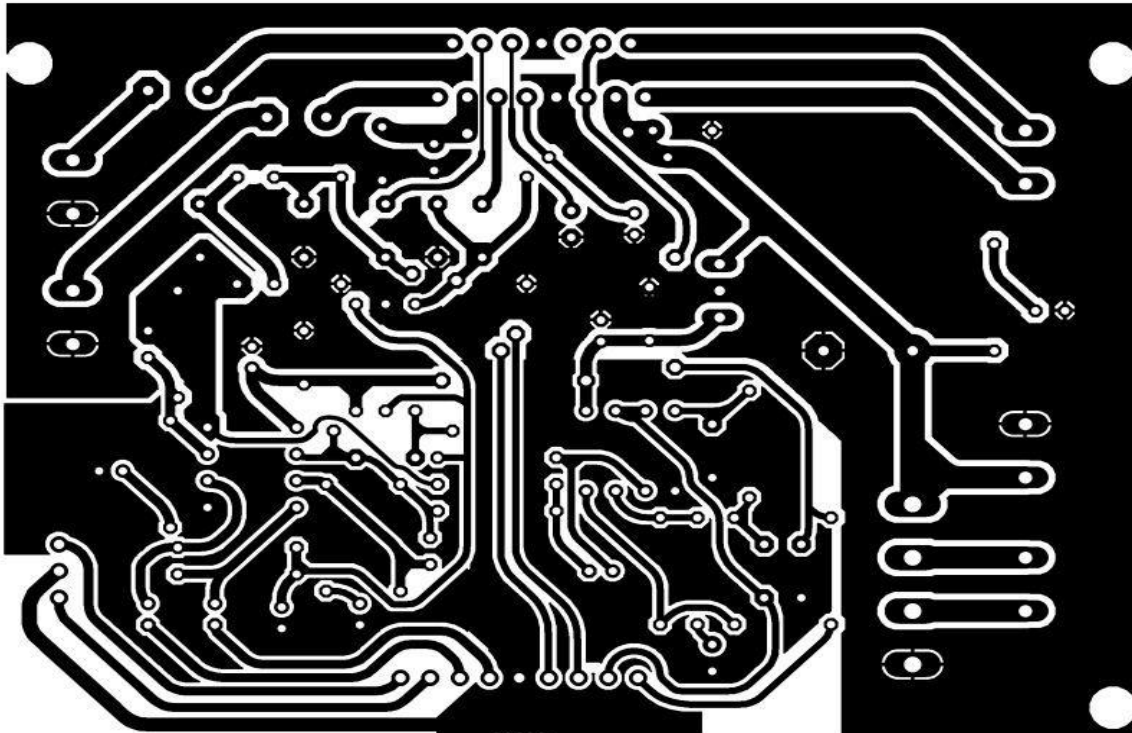
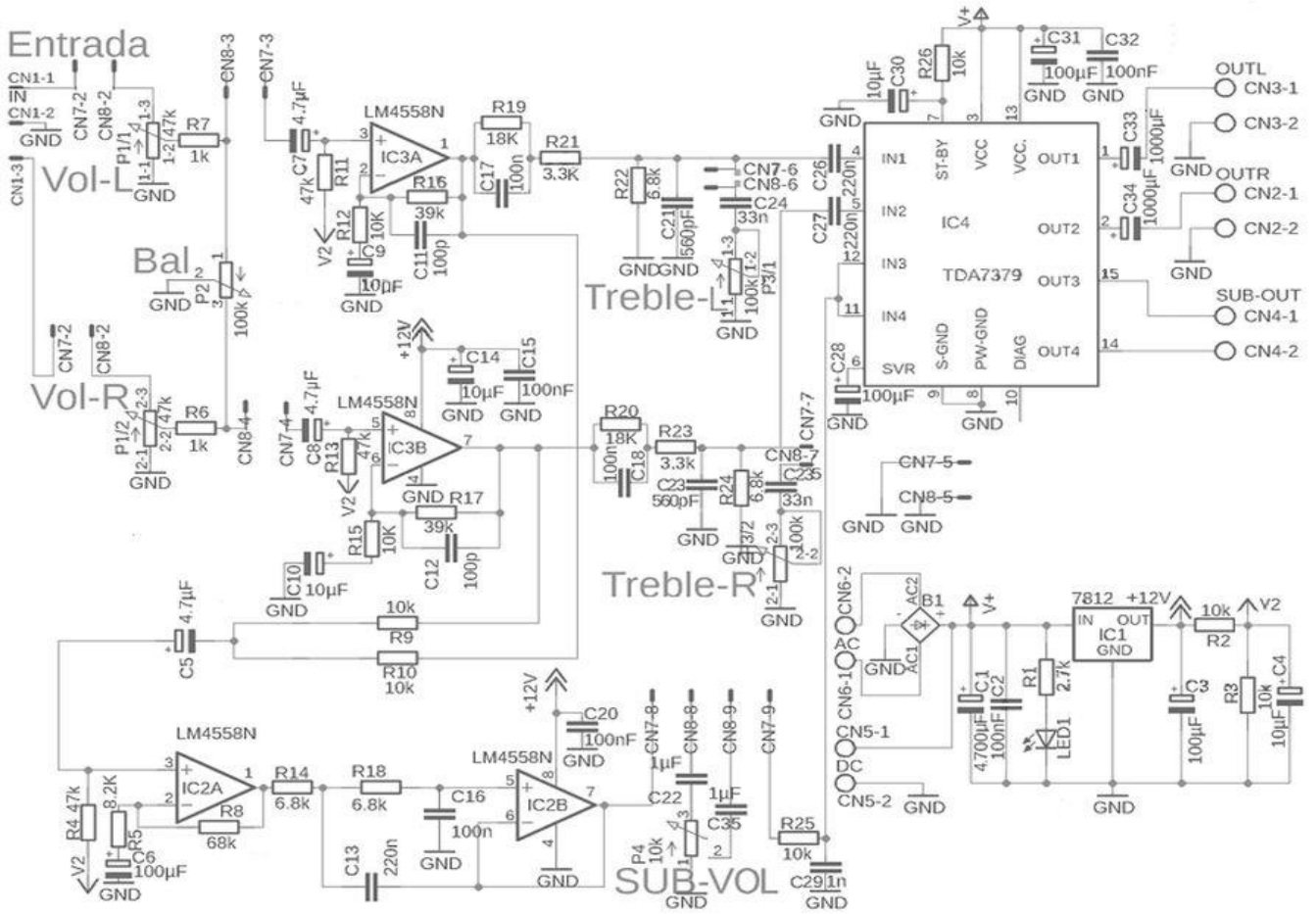


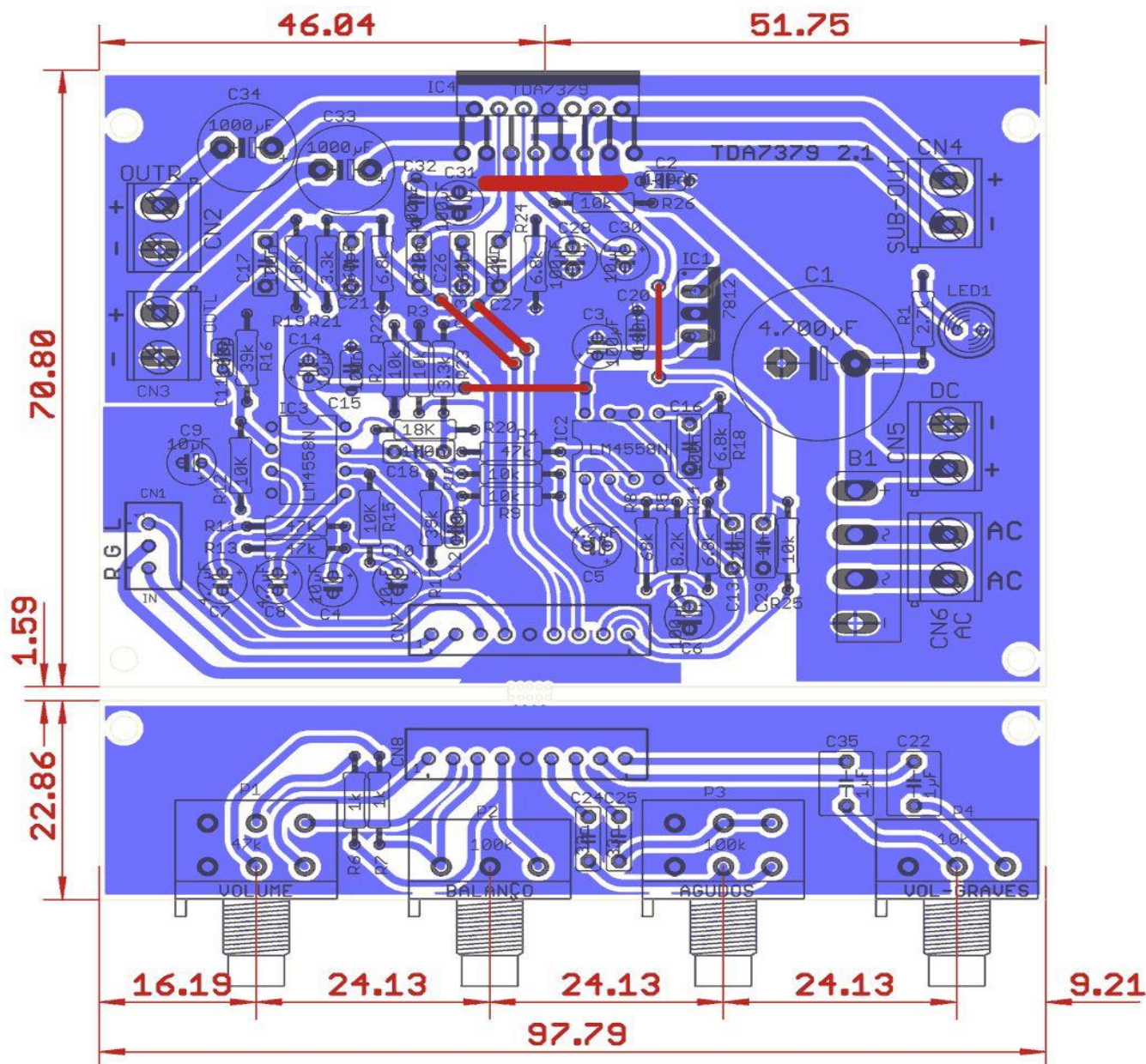
Part	Value
Resistor 1/4W 5%	
R1, R11, R22,	470 – Yellow, violet, brown, gold
R2, R7	22k/1W – Red, Red, Orange, Gold,
R3, R12, R23,	33k – Orange, Orange, Orange, Gold
R4, R18	4.7k – Yellow, Violet, Red, Gold
R5, R13, R14, R16, R17, R21, R26	22K – Red, Red, Orange, Gold
R6, R15, R19, R20, R29	10 – Brown, Black, Black, Gold
R8, R9	10k – Brown, Black, Orange, Gold
R10, R24	680 – Blue, green, brown, gold
R25, R27, R28	100k – Brown, Black, Yellow, Gold
Capacitors	
C1, C7, C11, C12, C18, C21, C25, C26, C29, C31, C37, C38, C44	10µF/25V – Electrolytic capacitor
C2, C32, C33, C34, C35, C36, C40, C43, C45	4.700µF a 10.000µF/25V – Electrolytic capacitor
C3, C8, C13, C15, C19, C28	100n (104) – Ceramic Capacitor
C4, C9	100µF/25V – Electrolytic capacitor
C5, C13, C15, C22, C23, C24	100n (104) – polyester capacitor
C6, C16, C27	2n2 (222) – polyester capacitor
C10, C17	1uF (105) – polyester capacitor
C14, C20	22µF/25V – Electrolytic capacitor
C41, C42	220p – Ceramic Capacitor
Semiconductors	
B1	KBU8B – Rectifier bridge – 8A 200V or equivalent.
IC3	7812T – Positive Voltage Regulator +12 V Any prefix (LM, NS, KA, etc.).
IC1	7912T – Negative voltage regulator -12V. Any prefix (LM, NS, KA, etc.).
IC2, IC4, IC5, IC7	TDA2030 or TDA2030A, or LM1875
IC6	NE5532 or equivalent – Dual Integrated Circuit Operational Amplifier
LED1	Led 5 mm any color
Connectors	
AC	Terminal block 3 pin 5.08 mm for the transformer
L-IN	Terminal block 2 pins 5.08 mm – Left channel audio input
L-OUT	Terminal block 2 pin 5.08 mm – Left channel audio output
R-IN	Terminal block 2 pin 5.08 mm – Audio input right channel
R-OUT	Terminal block 2 pin 5.08 mm – Audio output right channel
SUB	Terminal block 2 pin 5.08 mm – Subwoofer audio output
Miscellaneous	
P1	50k – 47K or 50k – Dual logarithmic potentiometer, Master Volume Adjustment
P2	50k – 47K or 50k – Single pot – Adjust the volume of the subwoofer.

odyo ampli surround 2+1 03-01



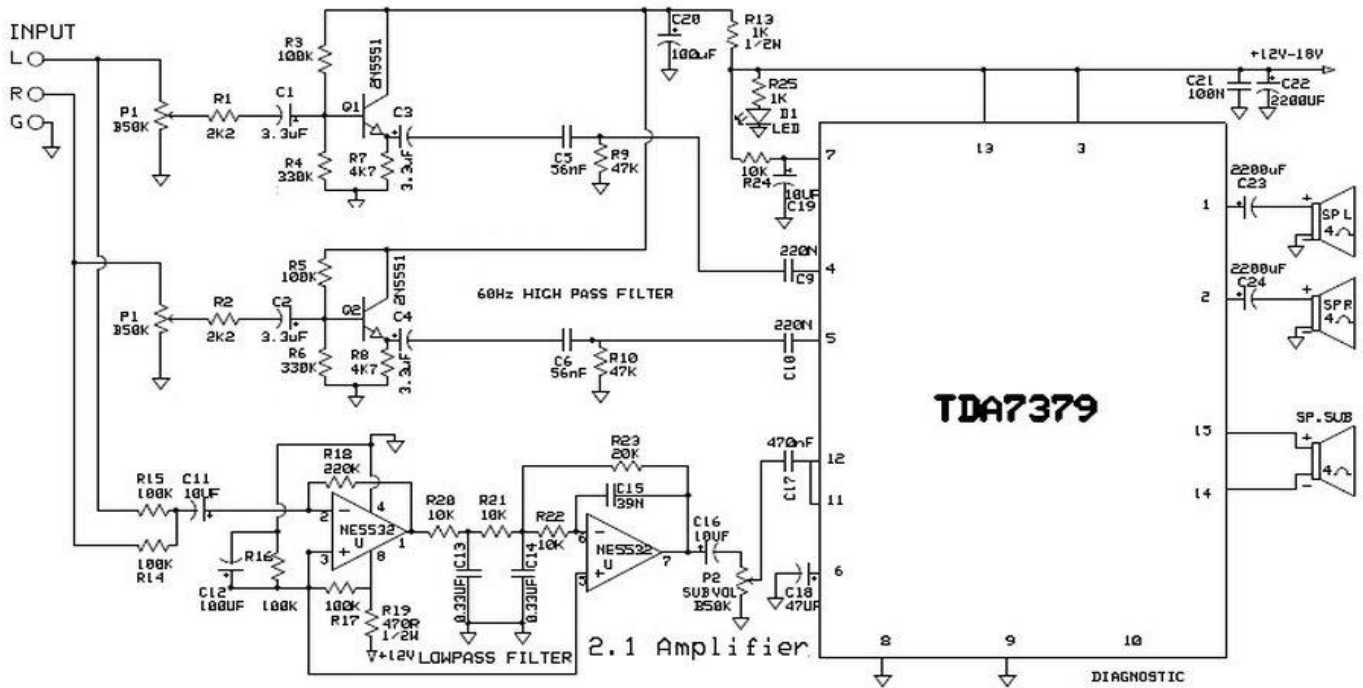
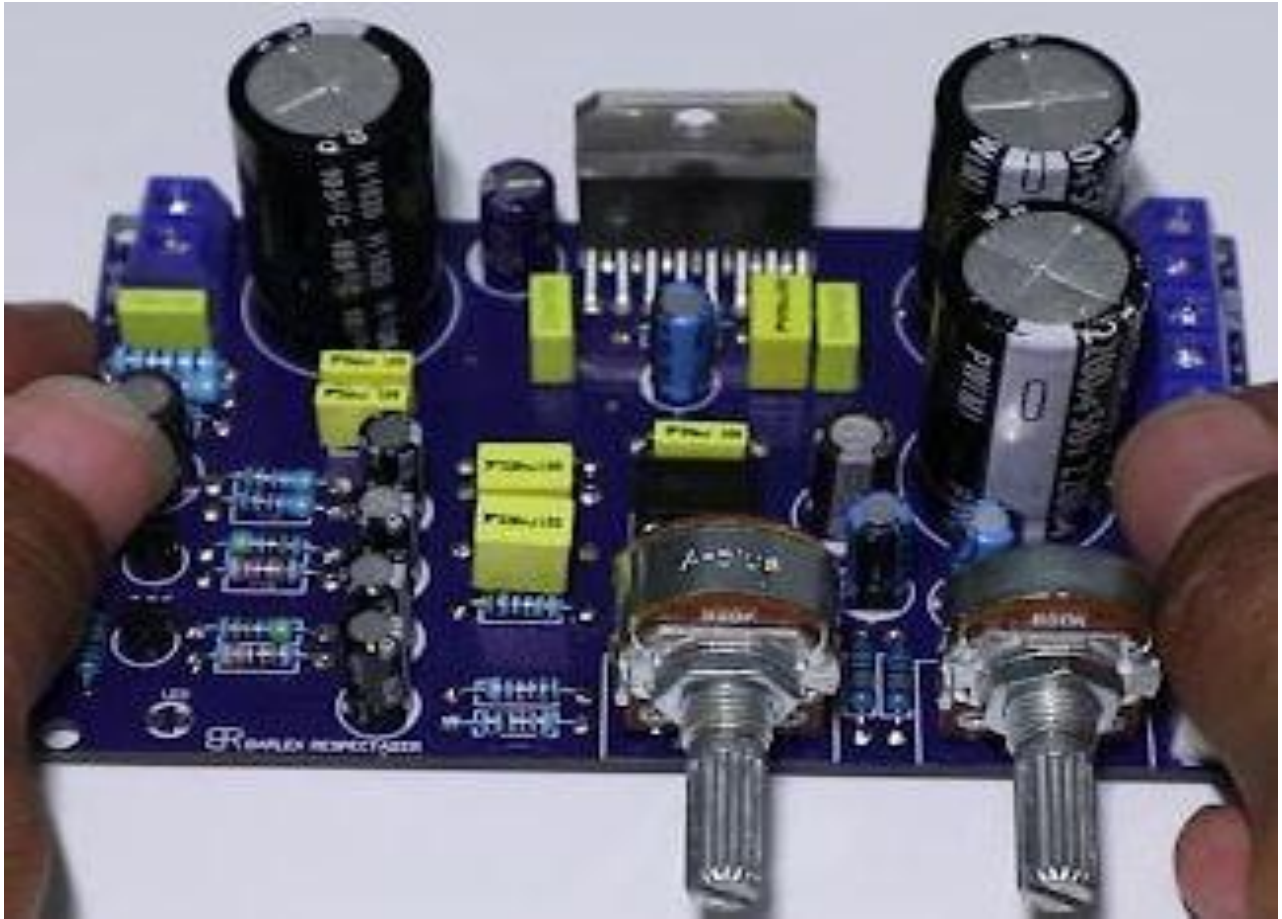
odyo ampli surround 2+1 04-01 2x6w - 1x20w



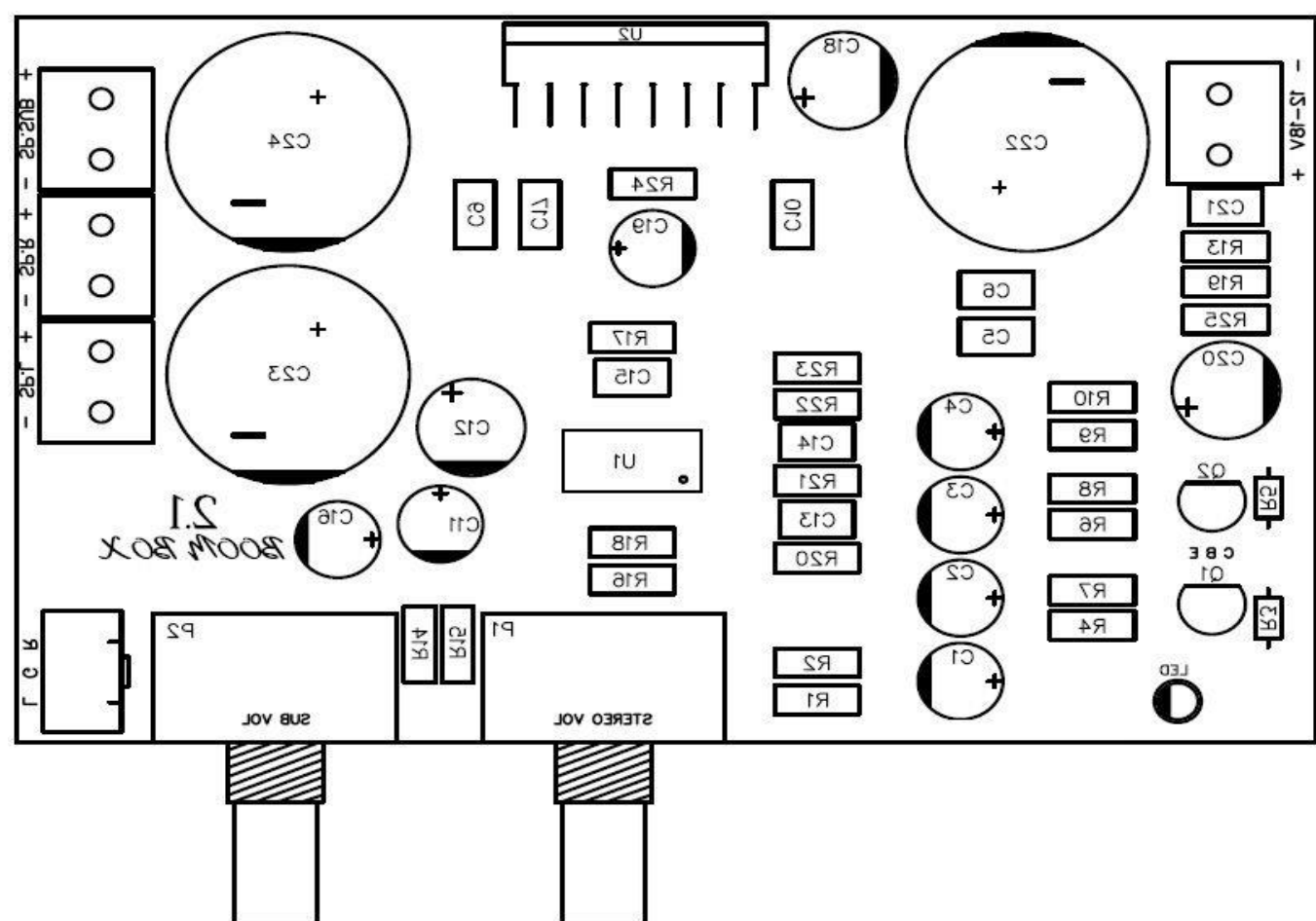
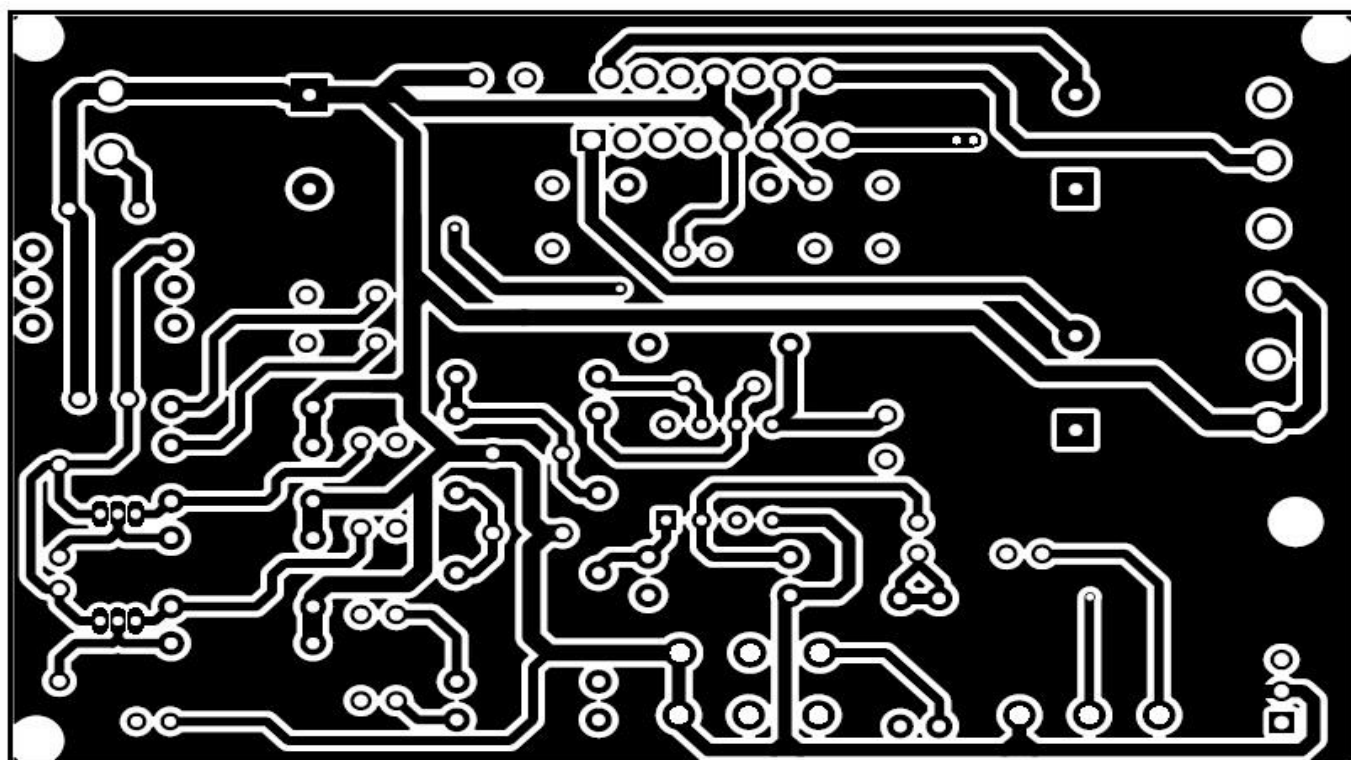


Resistor 1/4W 5%							
R1	2.7K	CI	DC	AC	Corrente	Potência 4 ?	Potência 8 ?
R2, R3, R9, R10, R25, R26	10K	TDA7377	12 — 16V	9 — 12V	3A	2X 6W + 1X 20W	—
R4, R11, R13	47K	TDA7375	12 — 16V	9 — 12V	3A	2X 7W + 1X 25W	—
R5	8.2K	TDA7379	12 — 18V	9 — 15V	4A	2X 11W + 1X 38W	2X 7W + 1X 20W
R6, R7	1k	STA540	12 — 20V	9 — 15V	4A	2X 11W + 1X 38W	2X 7W + 1X 20W
R8	68K	C2, C15, C16, C17, C18, C19				100nF	
R19, R20	18K	C11, C12				100pF	
R16, R17	39K	C13, C26, C27				220nF	
R21, R23	3.3K	C17, C18				6.8nF	
R14, R18, R22, R24	6.8K	C21, C23				4,7nF	
P1, P3	47K ou 50K	C22, C35				1µF	
P2	100k	C24, C25				33nF	
P4	10K	C29				1nF	
Capacitores Eletrolítico ¹		Semicondutores					
C1	4.700µF a 6.800µF /25V					KBL608 ou equivalente de 200V/2A	
C4, C9, C10, C14, C30	10µF/25V	B1					
C5, C7, C8	4.7µF/25V	IC1				LM7812	
C3, C6, C28, C31	100µF/25V	IC2, IC3				TL072, NE5532, LM4558	
C33, C34	1.000µF/25V	IC4				TDA7379	
Capacitores poliéster e cerâmico		LED1				Led Vermelho 5 mm	

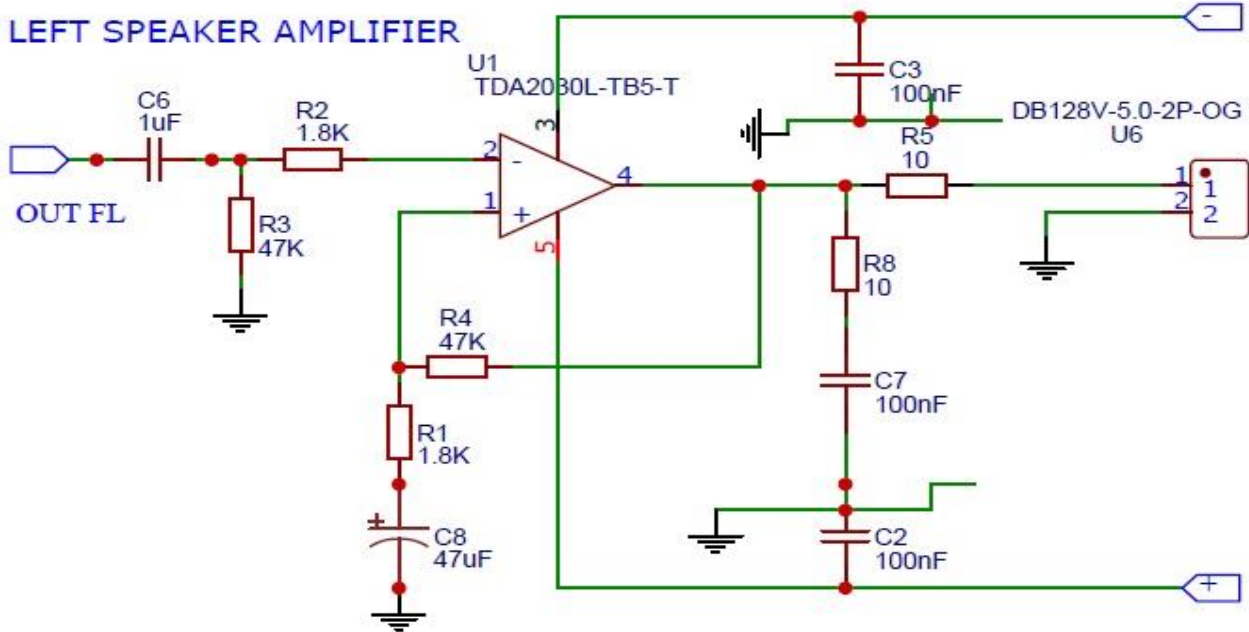
odyo ampli surround 2+1 05-01 TDA7377 TDA7379



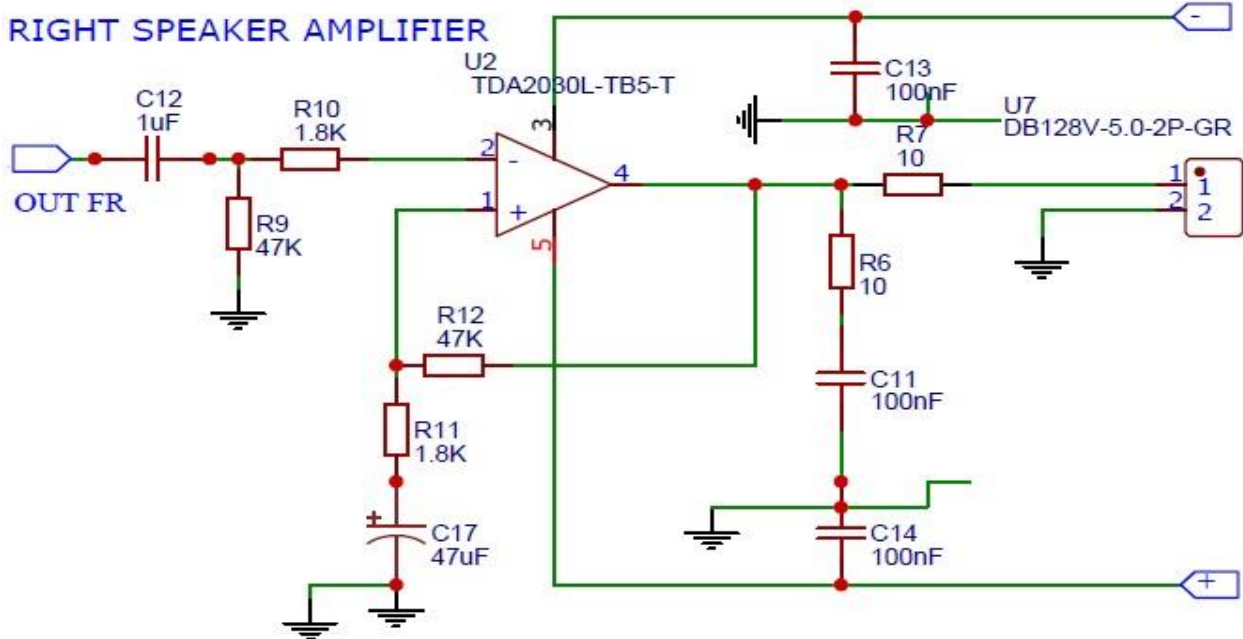
U2	1 TDA7379	C18	12 47uF 35V	R20,R21,R22,R24	22 10K 1/4W
T1,T2,T3,T4	2 2P Terminal	C21	13 100nF	R23	23 20K 1/4W
T5	3 3P Mini Terminal	C22,C23,C24	14 2200uF/35V	R25	24 1K 1/4W
C1,C2,C3,C4	4 3.3uF 35V	R1,R2	15 2.2K 1/4W	Q1,Q2	25 2N5551
C5,C6	5 56nF	R4,R6	16 330K 1/4W	U1	26 NE5532
C9,C10	6 220nF	R7,R8	17 4.7K 1/4W	P1	27 B50K POT STEREO
C11,C16,C19	7 10uF 35V	R9,R10	18 47K 1/4W	P2	28 B50K POT MONO
C12,C20	8 100uF 35V	R13	19 1K 1/2W	R19	29 470R 1/2W
C13,C14	9 330nF	R14,R15,R16,R17	20 100K 1/4W	LED	30 LED-3MM
C15	10 39nF	R18	21 220K 1/4W	R3,R5	31 100K 1/4W
C17	11 470nF				



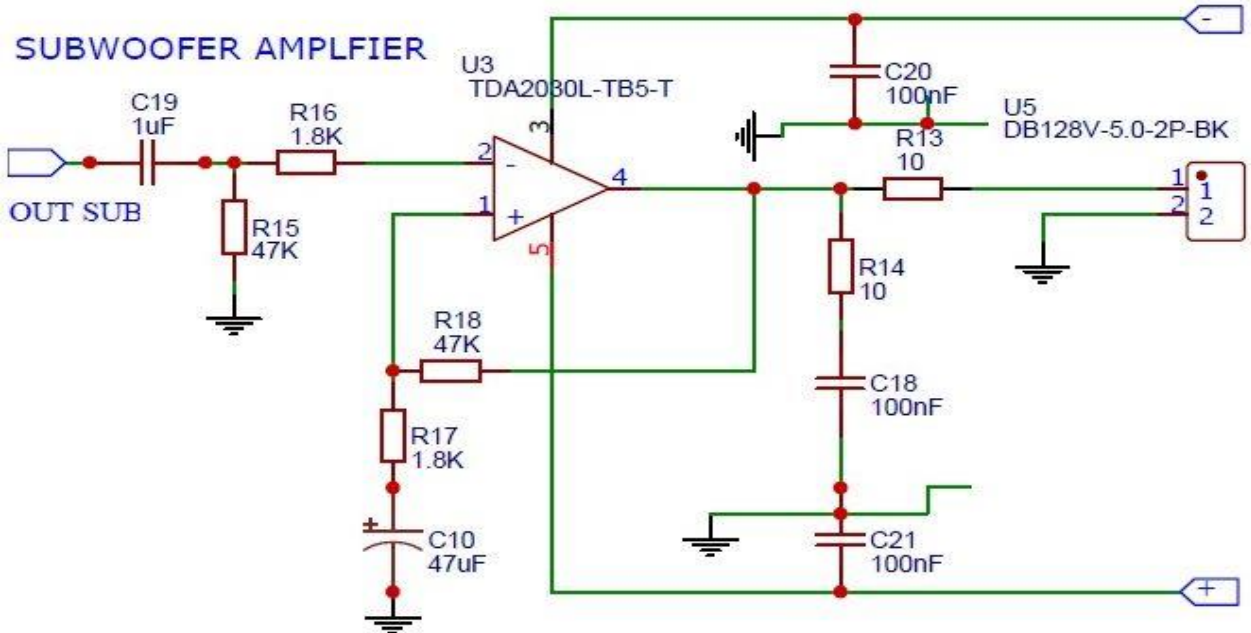
LEFT SPEAKER AMPLIFIER

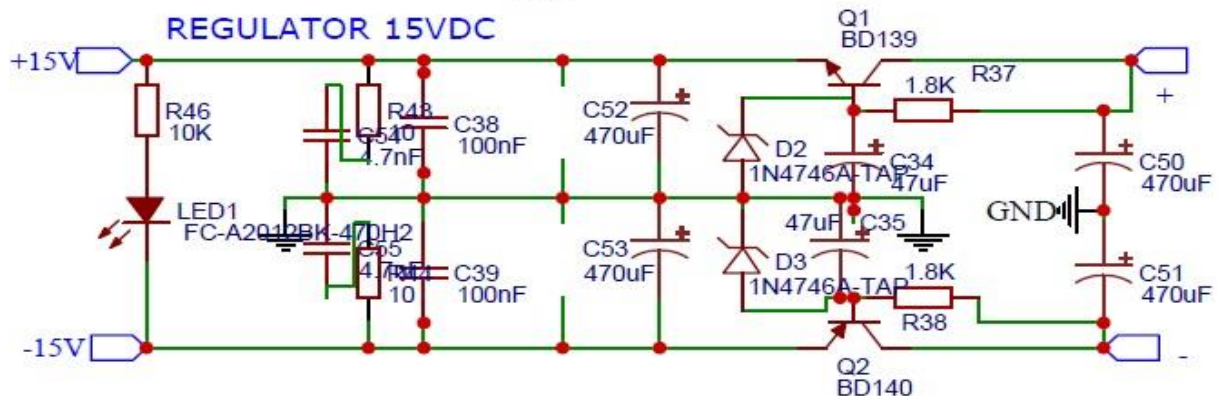
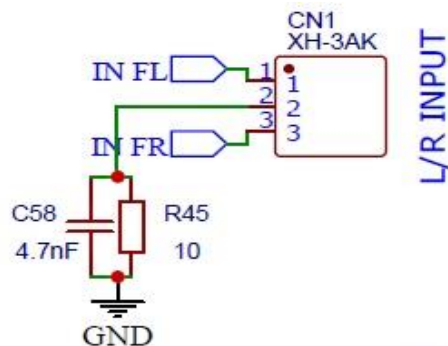
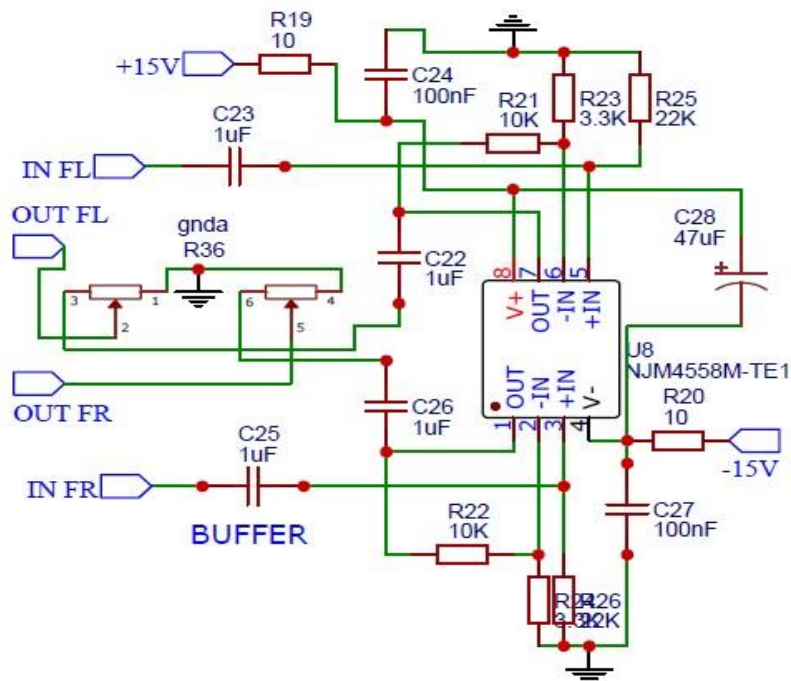
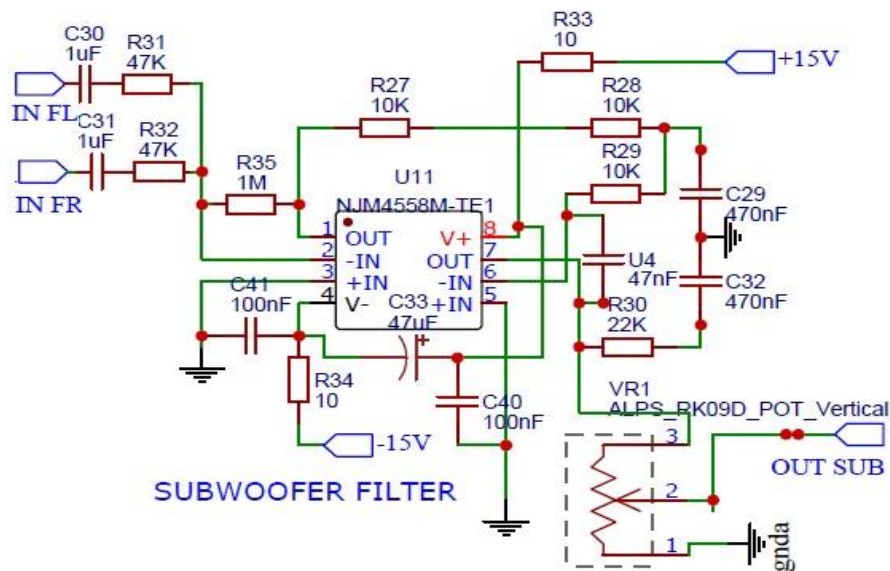


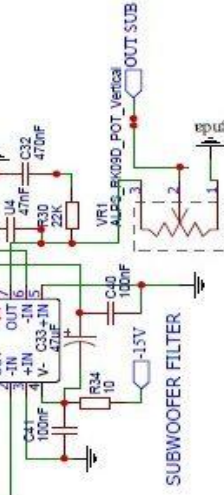
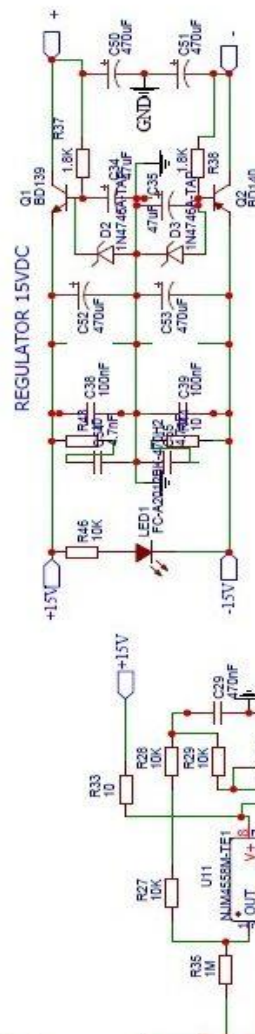
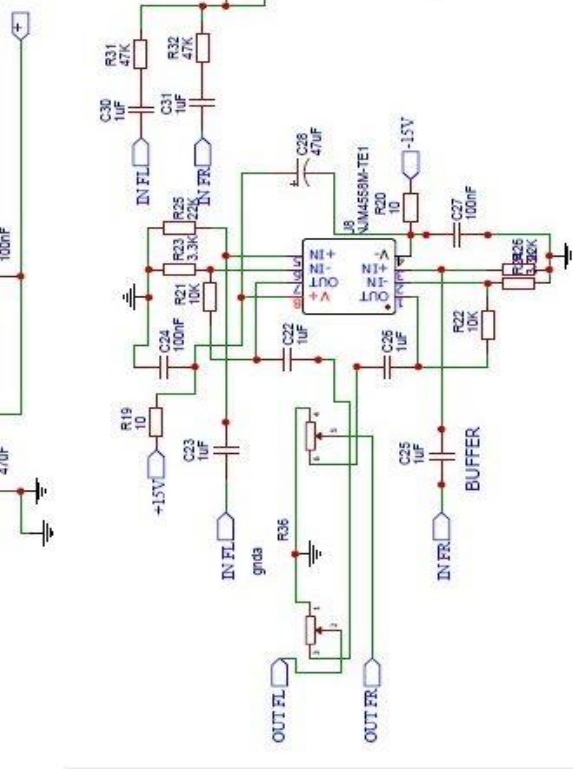
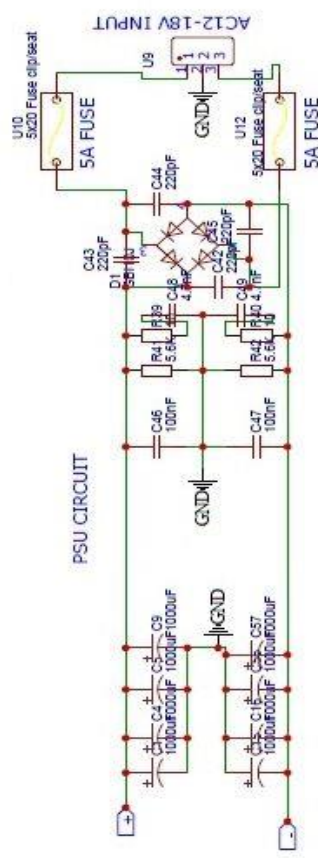
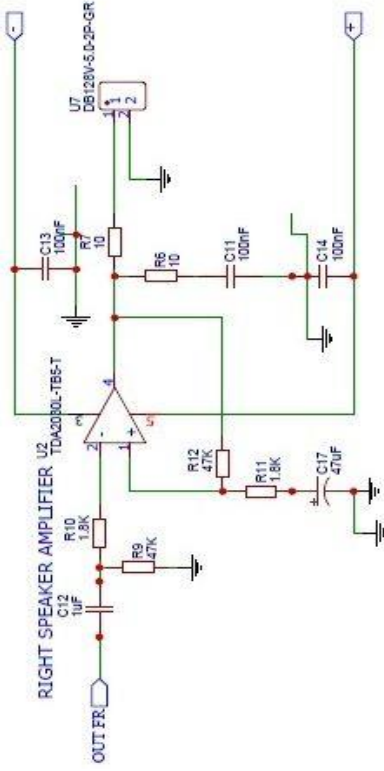
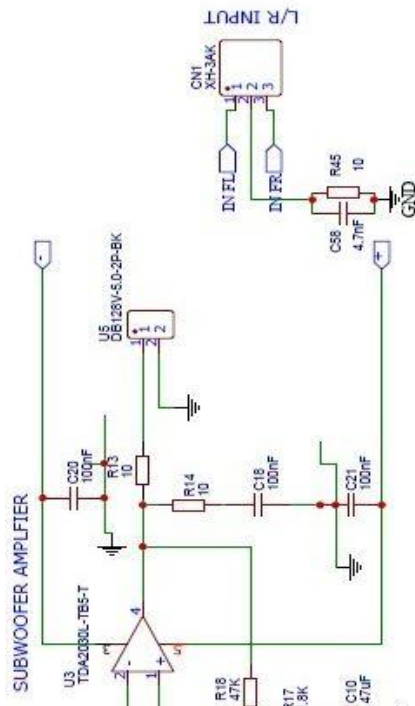
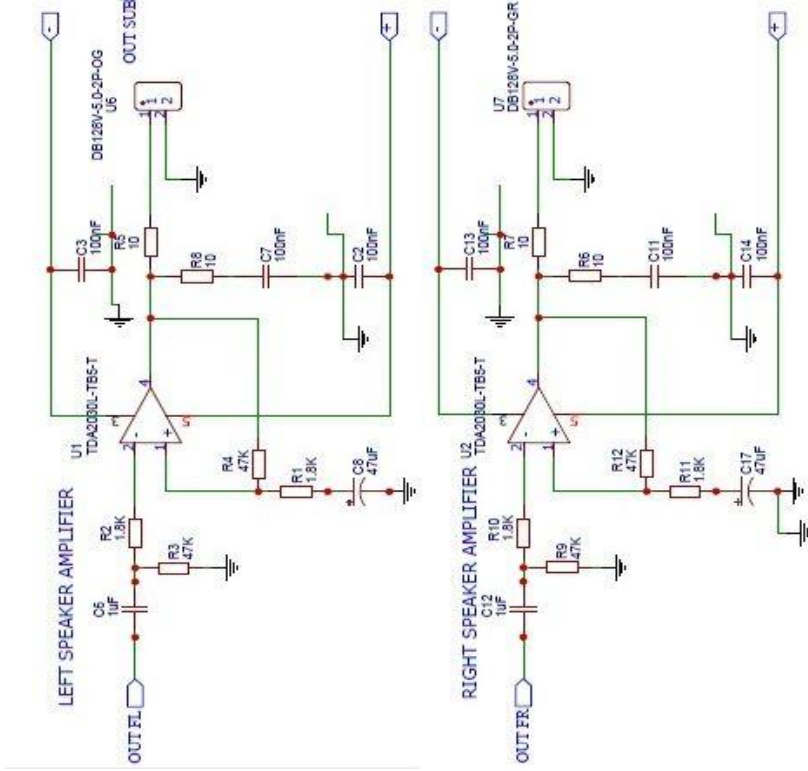
RIGHT SPEAKER AMPLIFIER

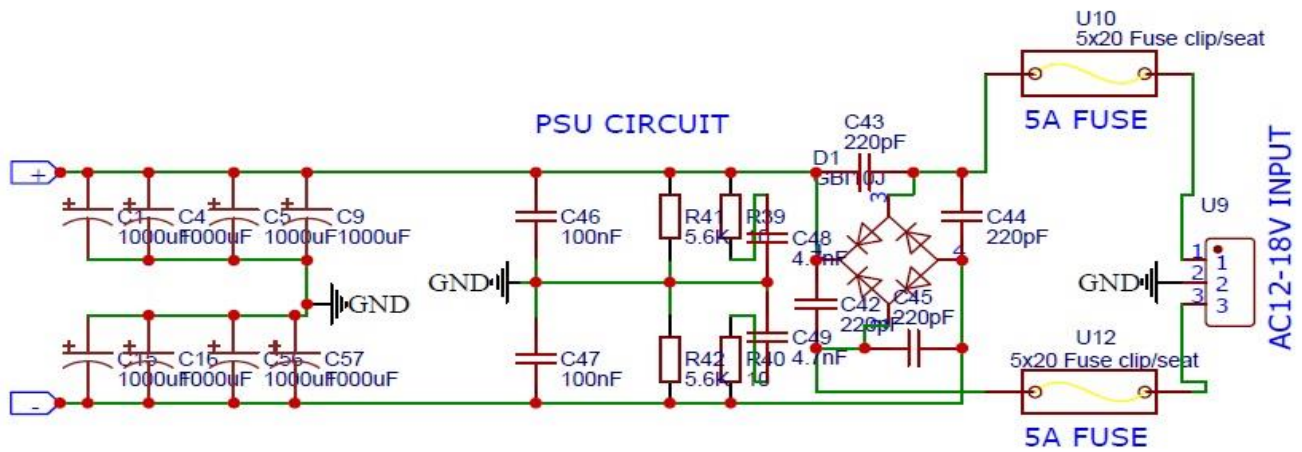


SUBWOOFER AMPLIFIER









R35	1M	U10,U12	5x20 Fuse clip/seat
Q2	BD140	C7,C11,C18	100nF
R36	gnda	U7	DB128V-5.0-2P-GR
U5	DB128V-5.0-2P-BK	U9	DB128V-5.0-3P_C484209
C42,C43,C44,C45	220pF	D1	GB110J
C28,C33,C34,C35	47uF	C21,C20,C14,C13,C3,C2,C24,C27,C38,C39,C46,C47,C40,C41	100nF
C29,C32	470nF	U4	47nF
D2,D3	1N4746A-TAP	R21,R22,R27,R28,R29,R46	10K
C50,C51	470uF	VR1	ALPS_RK09D_POT_Vertical
U3,U2,U1	TDA2030L-TB5-T	Q1	BD139
R17,R16,R11,R10,R2,R1,R37,R38	1.8K	C19,C12,C6,C22,C23,C25,C26,C30,C31	1uF
C48,C49,C54,C55,C58	4.7nF	R23,R24	3.3K
R45	10	R13,R7,R5	10
R6,R8,R14	10	R39,R40,R43,R44	10
R41,R42	5.6K	U6	DB128V-5.0-2P-OG
CN1	XH-3AK	C8,C10,C17	47uF
C52,C53	470uF	R19,R20,R33,R34	10
U8,U11	NJM4558M-TE1	LED1	FC-A2012BK-470H2
R18,R15,R12,R9,R3,R4,R31,R32	47K	R25,R26,R30	22K
C1,C4,C5,C9,C15,C16,C56,C57	1000uF		

TDA2030

Supply Voltage: 12-36VDC

Power Output: 14W

TDA2050

Supply voltage: 4.5-25VDC

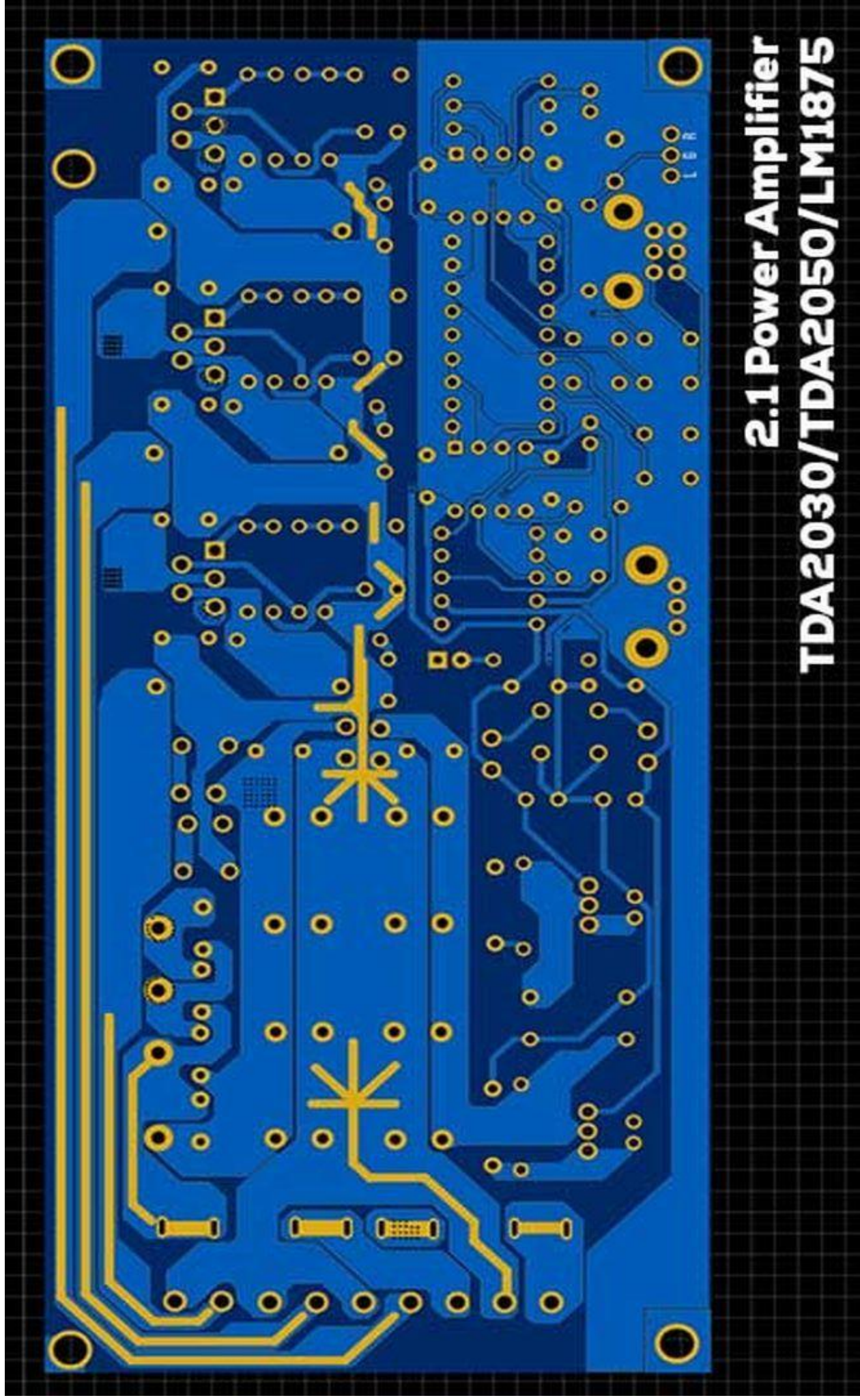
Power Output: 32W / 50W Music Power

LM1875

Supply voltage: 16-60VDC

Power Output: 30W

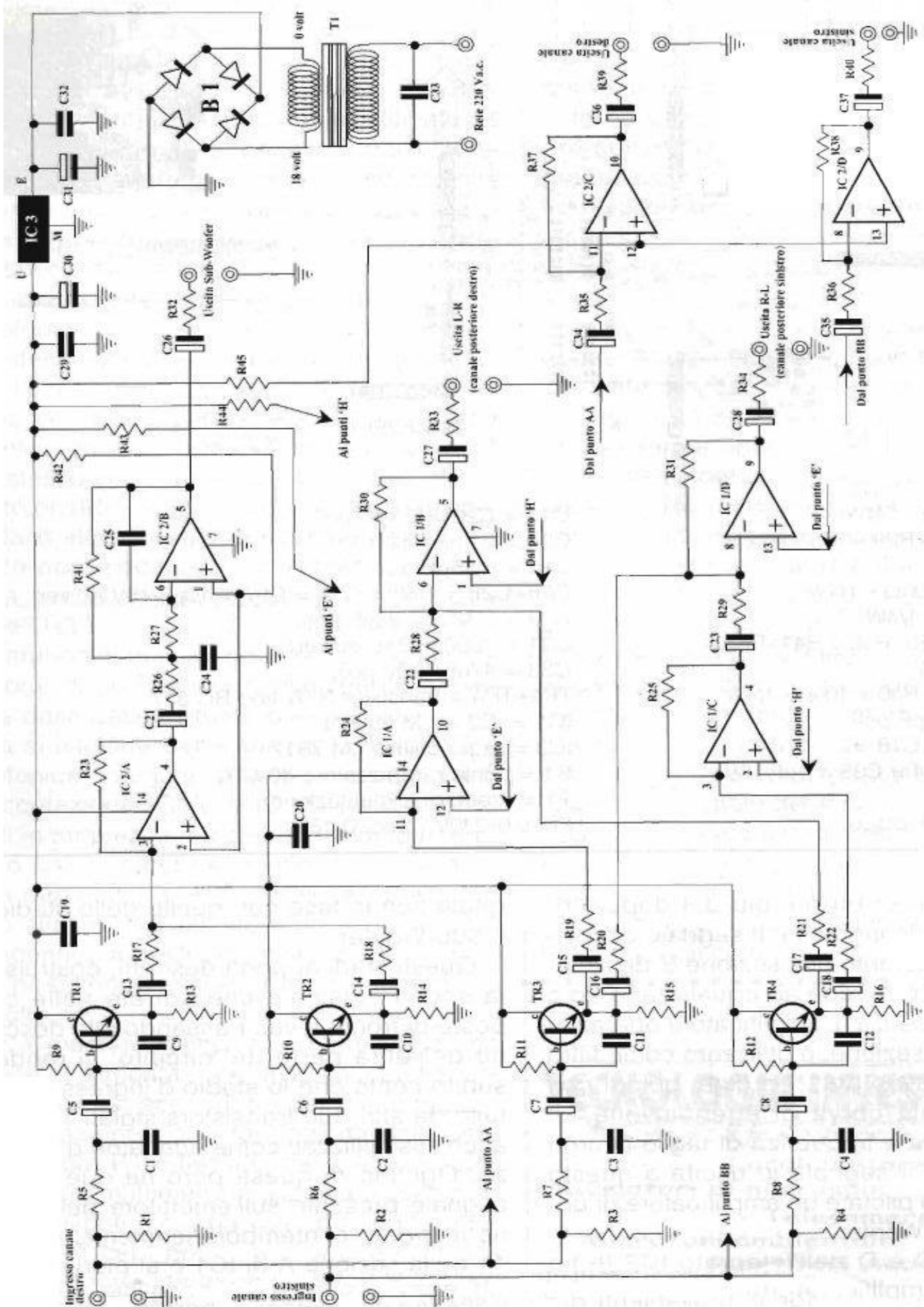
2.1 Power Amplifier TDA2030/TDA2050/LM1875



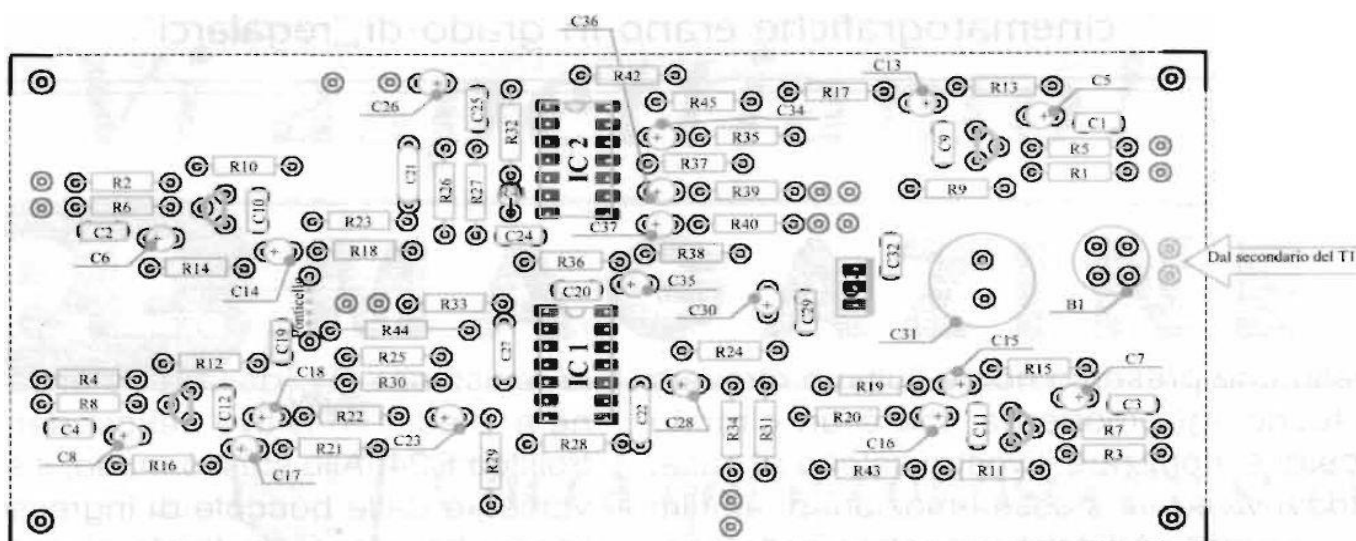
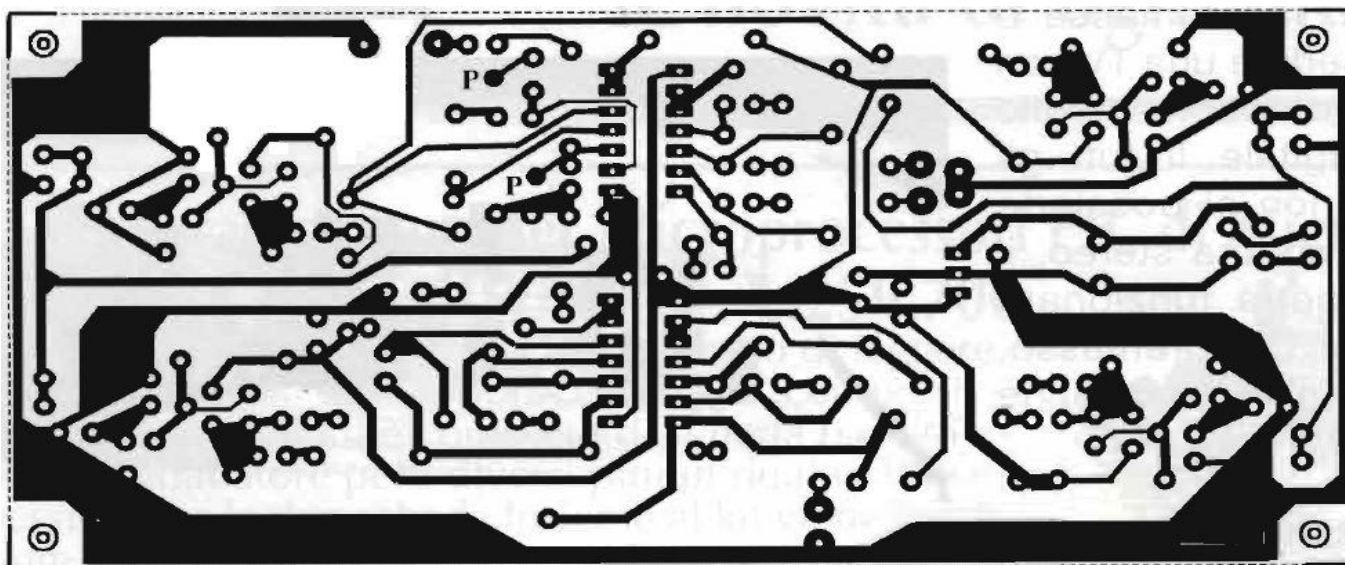
2.1 Power Amplifier

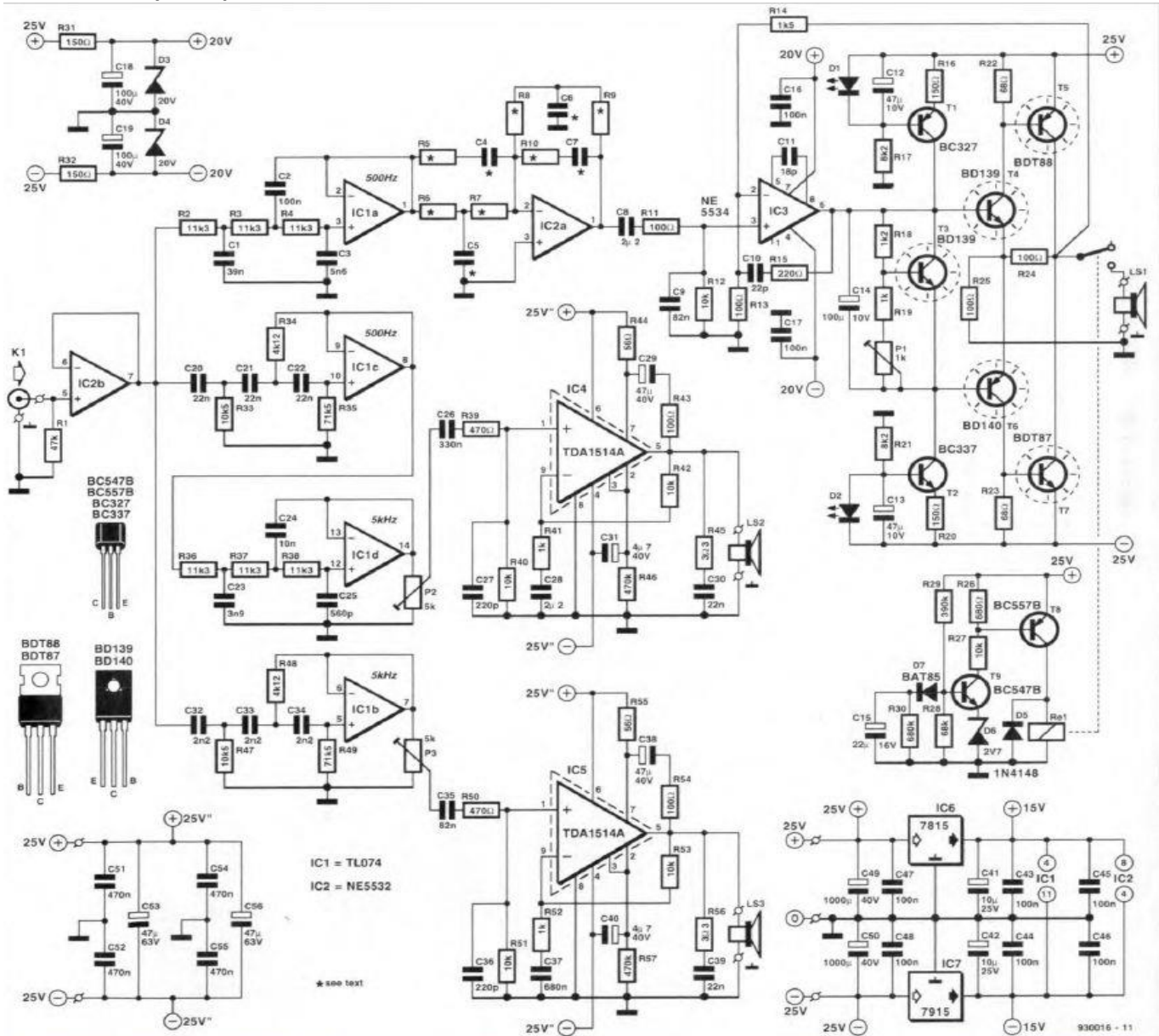
TDA2030/TDA2050/LM1875

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$R1+R4 = 1M\Omega - 1/4W$	$C19 = C20 = 0,1\mu F$ poli.
$R5+R8 = 560\Omega - 1/4W$	$C24 = 0,1\mu F$ poli.
$R9+R12 = R24+R29 = R17+R22 =$	$C25 = 0,15\mu F$ poli.
$100k\Omega - 1/4W$	$C26+C28 = C30 = C36 = C37 = 10\mu F/16V$ el.
$R13+R16 = 1800\Omega - 1/4W$	$C29 = C32 = 0,33\mu F$ poli.
$R23 = 220k\Omega - 1/4W$	$C31 = 1000\mu F/35V$ el. vert.
$R30 = R31 = R35+R38 = R41+R45$	$C33 = 47nF/400V$ poli.
$= 220k\Omega - 1/4W$	$TR1+TR4 =$ transistor NPN tipo BC 317
$R32+R34=R39=R40 = 100\Omega - 1/4W$	$IC1 = IC2 = LM 3900N$
$C1+C4 = 4700pF$ poli.	$IC3 =$ reg. positivo LM 7812
$C5+C8 = C13+C18 =$	$B1 =$ ponte raddrizzatore 80V/1A
$C21+C23 = C34 = C35 = 1\mu F/16V$	$T1 =$ trasf. di alimentazione -
el. vert.	Prim. 0-220V - Sec. 0-18V
$C9+C12=220pF$ disco	





Resistors:

R1 = 47 kΩ
 R2-R4, R36-R38 = 11.3 kΩ, 1%
 R5-R10 = see text
 R11, R13 = 100 Ω
 R12, R40, R42, R51, R53 = 10 kΩ
 R14 = 1.5 kΩ
 R15 = 200 Ω
 R16, R20, R31, R32 = 150 Ω
 R17, R21 = 8.2 kΩ
 R18 = 1.2 kΩ
 R19, R41, R52 = 1 kΩ
 R22, R23 = 68 Ω
 R24, R25 = 100 Ω, 2.5 W
 R26 = 680 Ω
 R27 = 10 kΩ
 R28 = 68 kΩ
 R29 = 390 Ω
 R30 = 680 kΩ
 R33, R47 = 10.5 kΩ, 1%
 R34, R48 = 4.12 kΩ, 1%
 R35, R49 = 71.5 kΩ, 1%
 R39, R50 = 470 Ω
 R43, R54 = 100 Ω, 1.5 W
 R44, R55 = 56 Ω, 1.5 W
 R45, R56 = 3.3 Ω
 R46, R57 = 470 kΩ
 P1 = 1 kΩ preset
 P2, P3 = 4.7 kΩ (5 kΩ) preset

Capacitors:

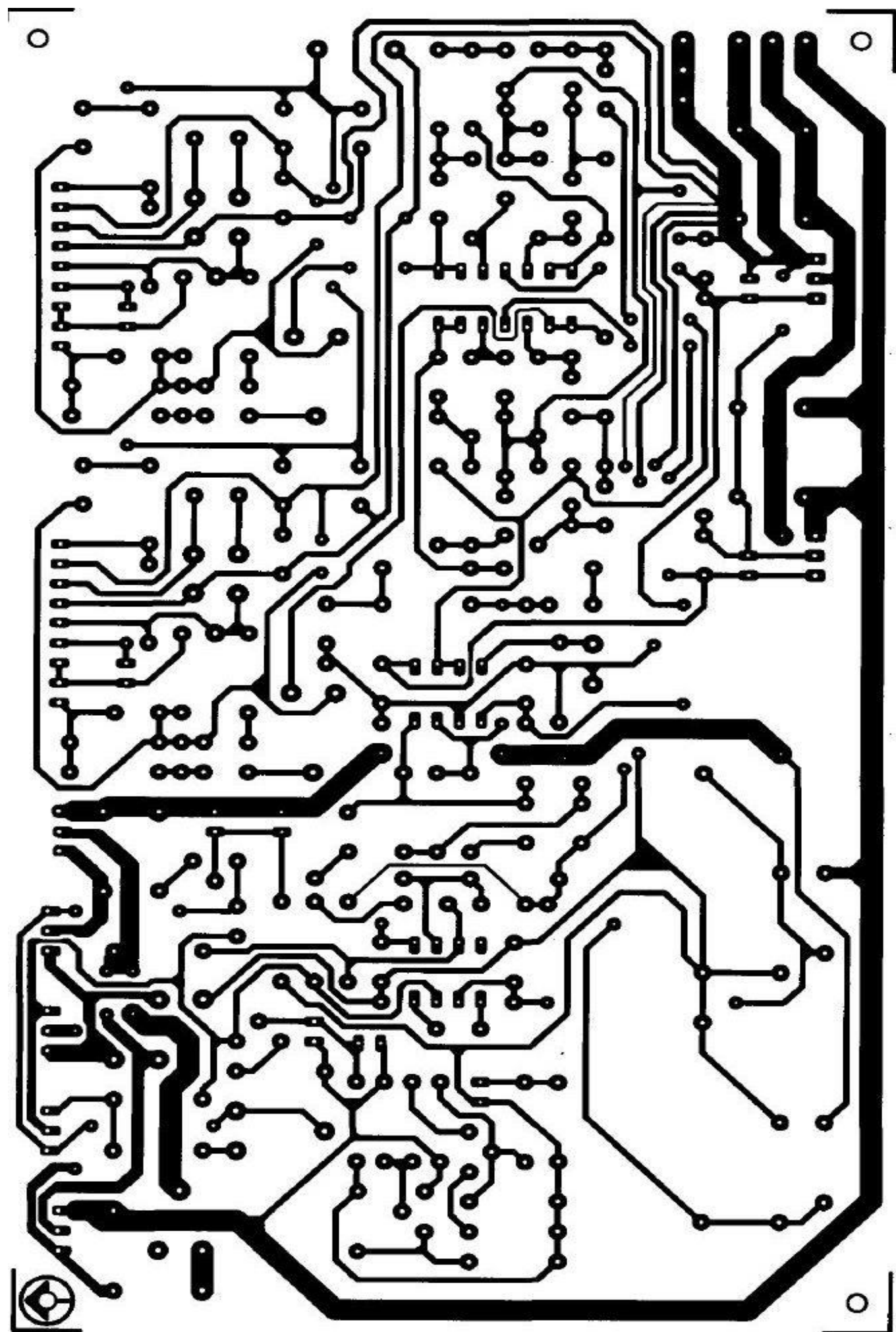
C1 = 39 nF
 C2, C16, C17, C43-C48 = 100 nF
 C3 = 5.6 nF
 C4-C7 = see text
 C8, C28 = 2.2 μF, 50 V, MKT
 C9, C35 = 82 nF
 C10 = 22 pF
 C11 = 18 pF
 C12, C13 = 47 μF, 10 V, radial
 C14 = 100 μF, 10 V, radial
 C15 = 22 μF, 16 V, radial
 C18, C19 = 100 μF, 40 V
 C20-C22, C30, C39 = 22 nF
 C23 = 3.9 nF
 C24 = 10 nF
 C25 = 560 pF, polystyrene
 C26 = 330 nF
 C27, C36 = 220 pF
 C29, C38 = 47 μF, 40 V, radial
 C31, C40 = 4.7 μF, 40 V, radial
 C32-C34 = 2.2 nF
 C37 = 680 nF
 C41, C42 = 10 μF, 25 V, radial
 C49, C50 = 1000 μF, 40 V, radial
 C51, C52, C54, C55 = 470 nF
 C53, C56 = 47 μF, 63 V, radial

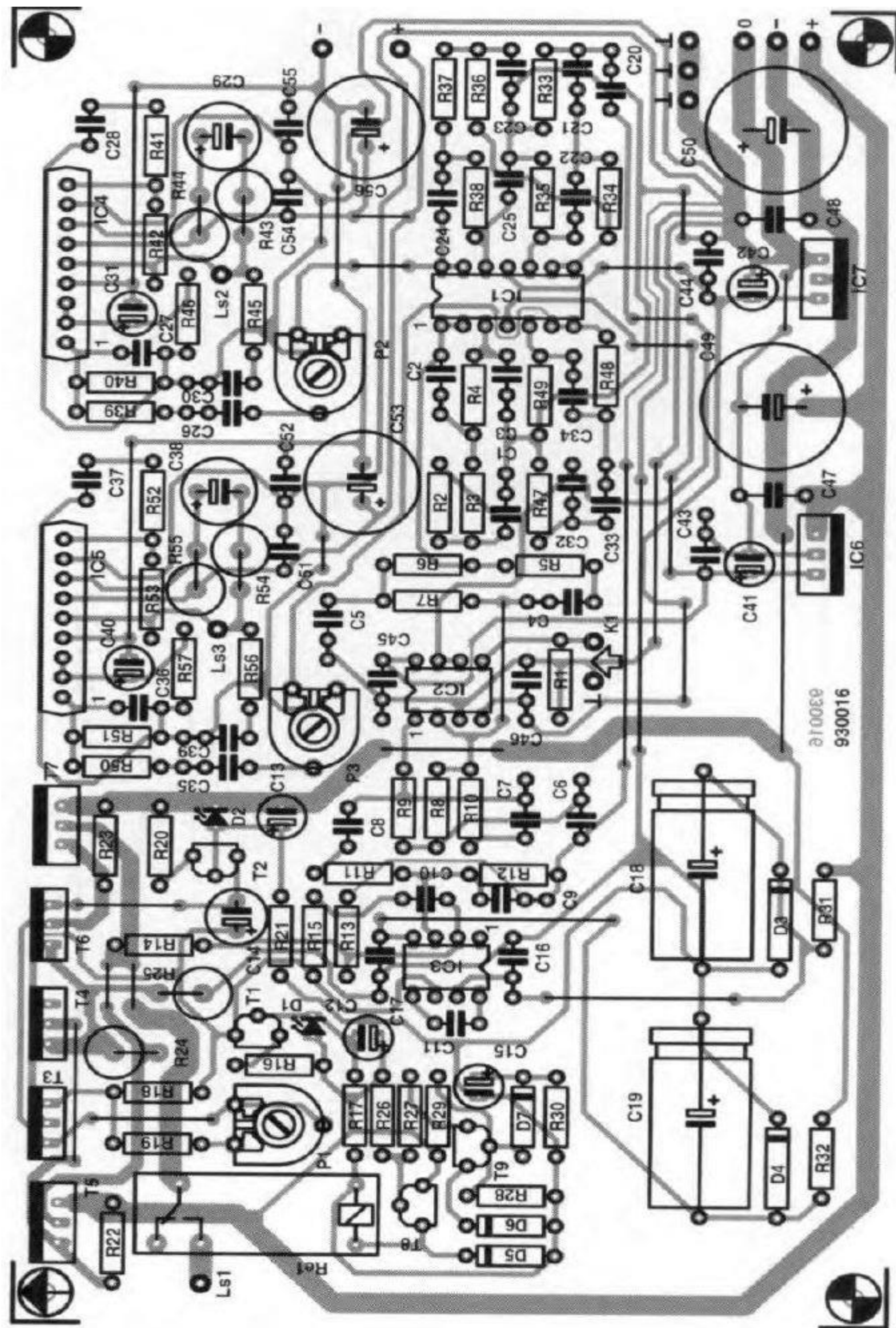
Semiconductors:

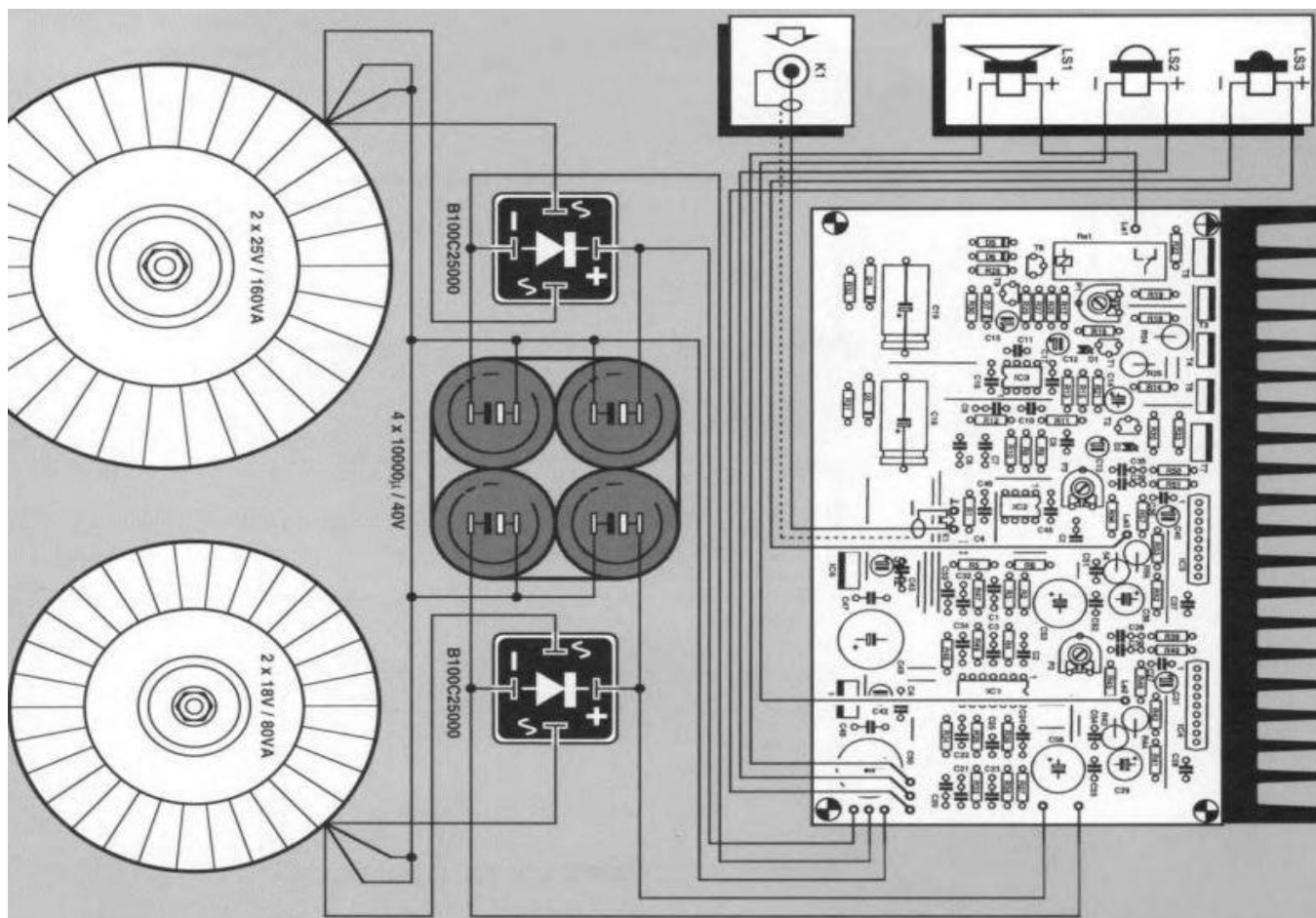
D1, D2 = LED, 3 mm, red
 D3, D4 = zener diode, 20 V, 1.5 mW
 D5 = 1N4148
 D6 = zener, 2.7 V, 400 mW
 D7 = BAT85
 T1 = BC327
 T2 = BC337
 T3, T4 = BD139
 T5 = BDT88
 T6 = BD140
 T7 = BDT87
 T8 = BC557B
 T9 = BC547B
 IC1 = TL074
 IC2 = NE5532
 IC3 = NE5534
 IC4, IC5 = TDA1514A
 IC6 = 7815
 IC7 = 7915

Miscellaneous:

K1 = audio plug for PCB mounting
 Re1 = relay with make contact, 24 V coil
 Heat sink, 0.5 K W⁻¹ (SK47)
 PCB Type 930016

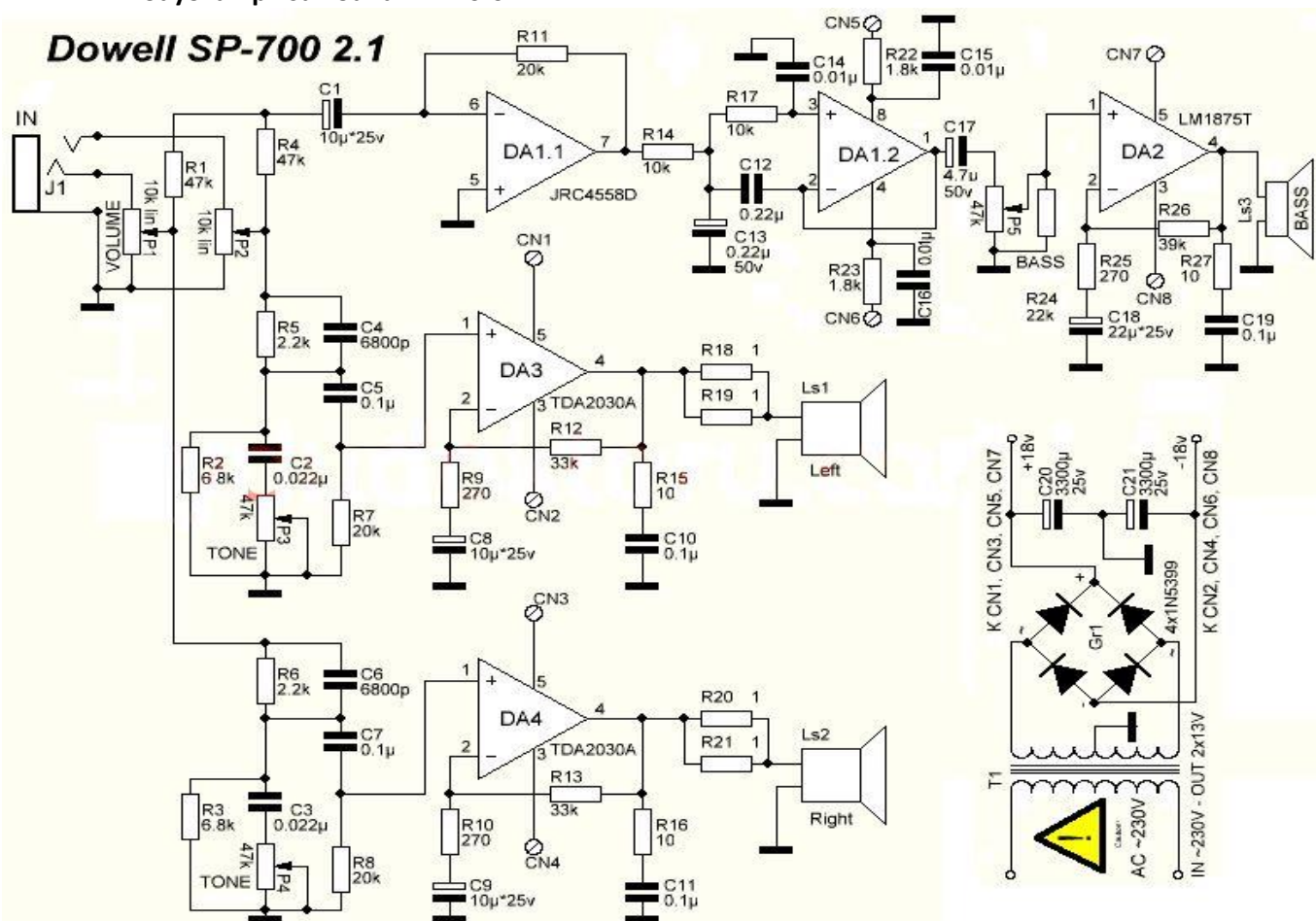


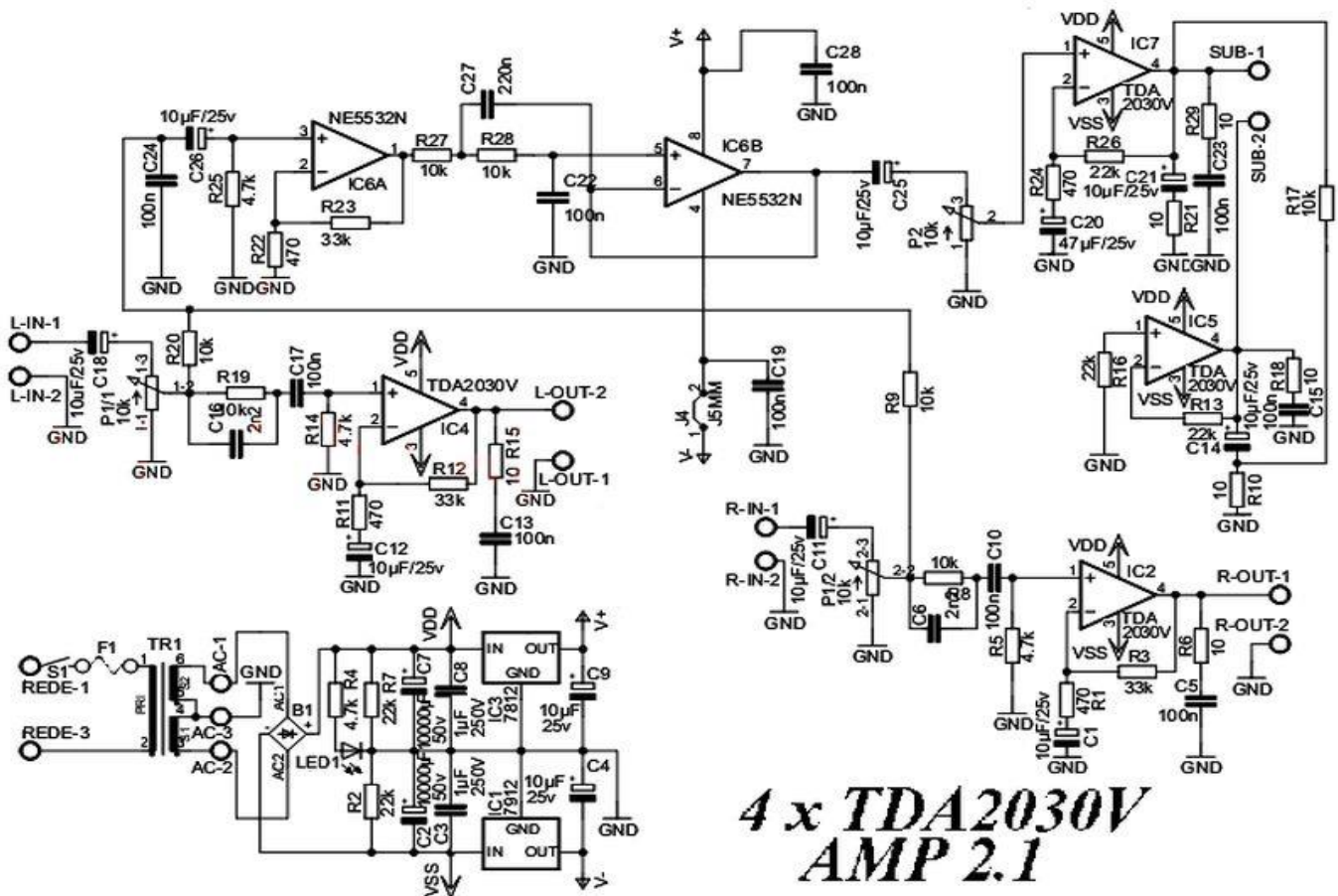
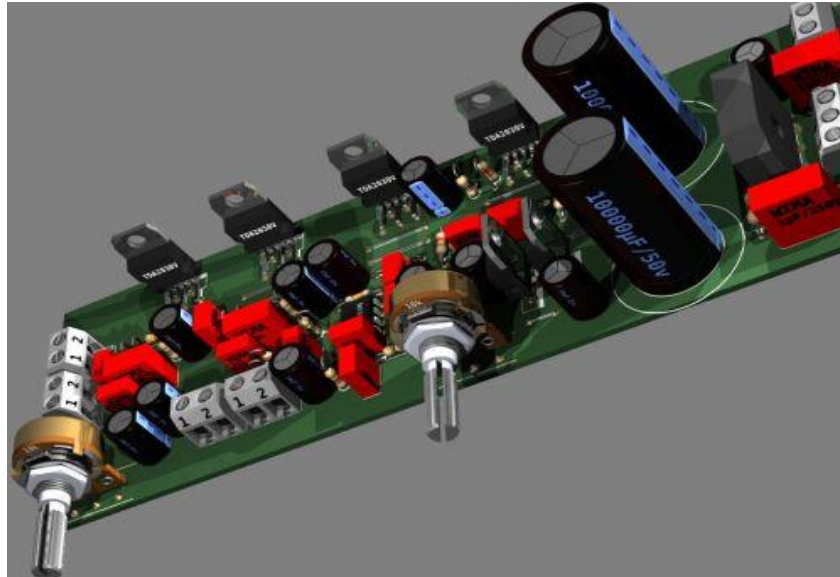




odyo ampli surround 2+1 10-01

Dowell SP-700 2.1

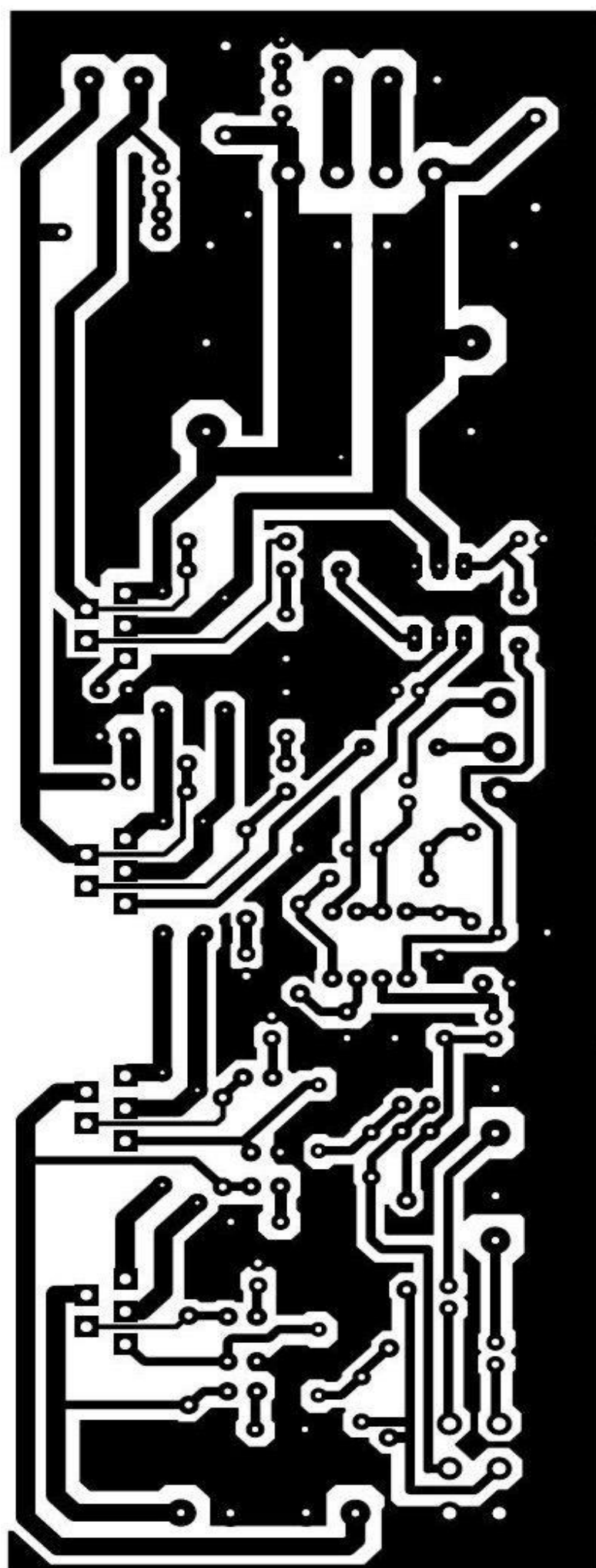


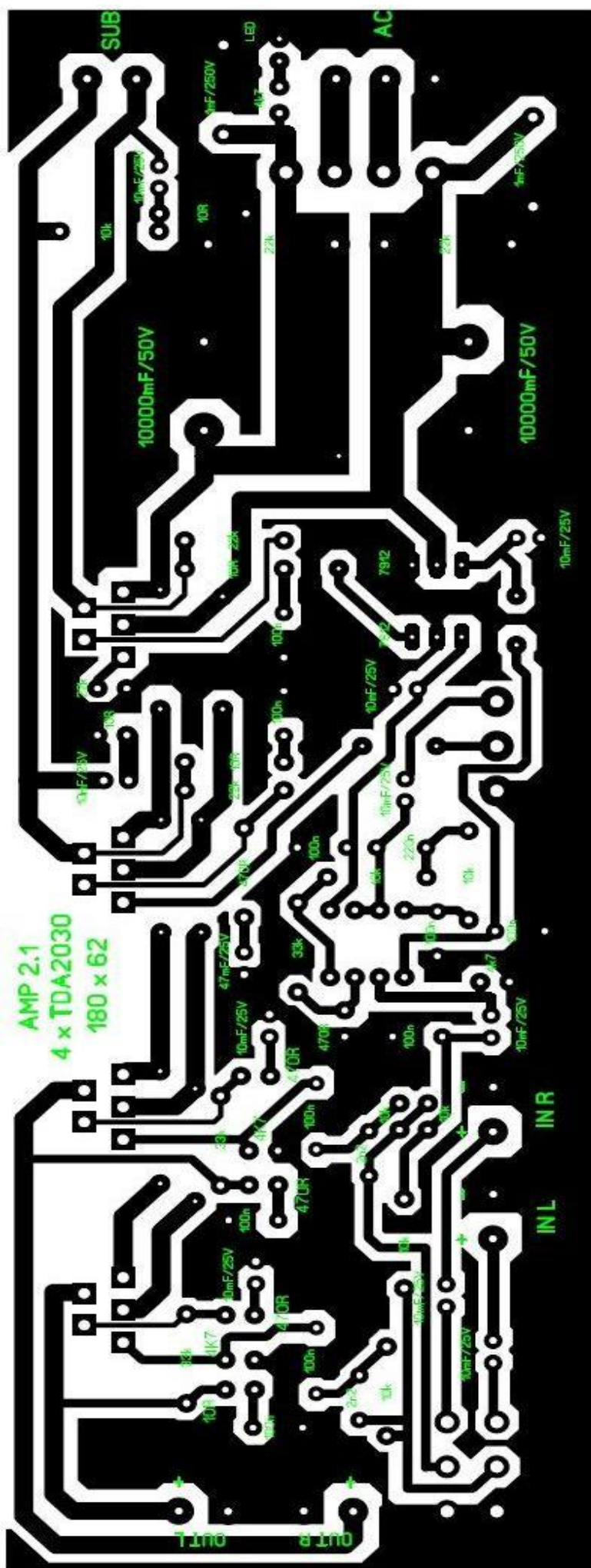


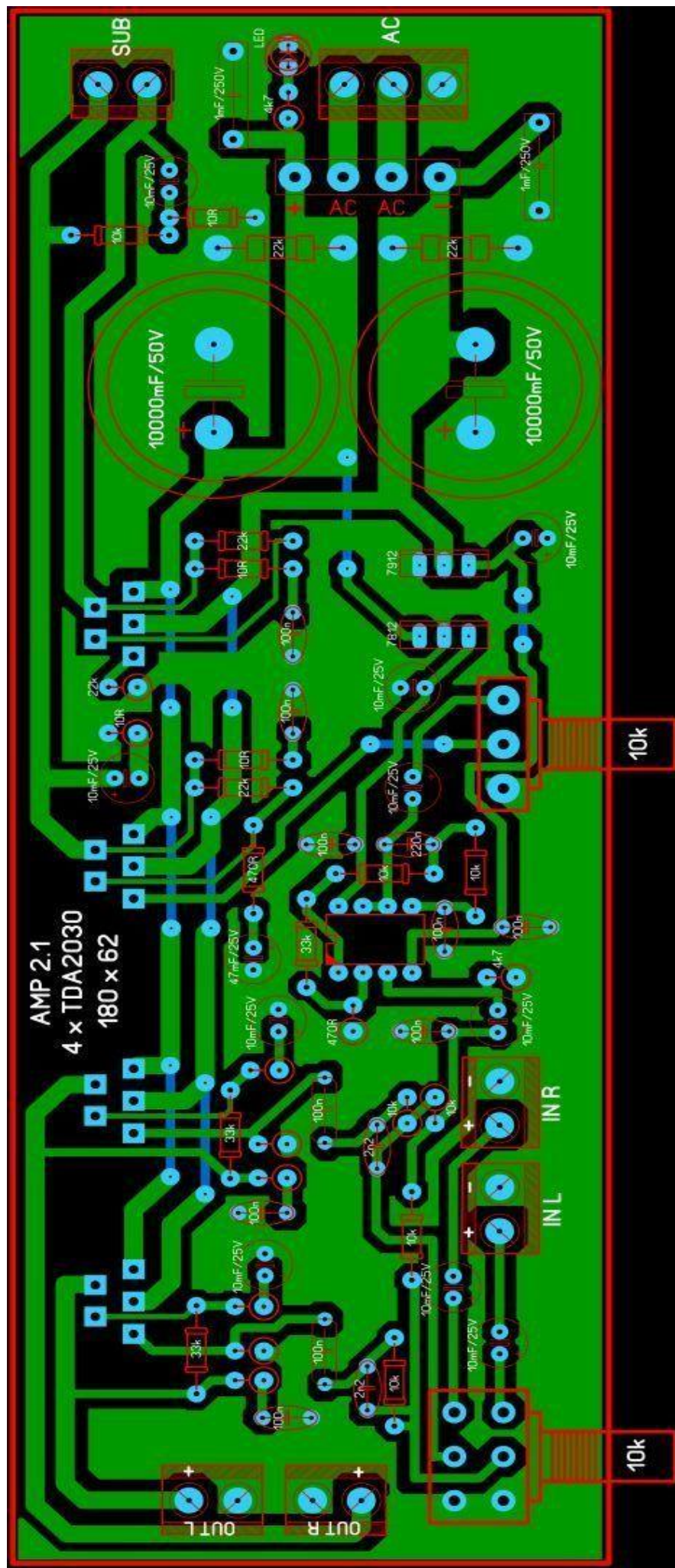
**4 x TDA2030V
AMP 2.1**

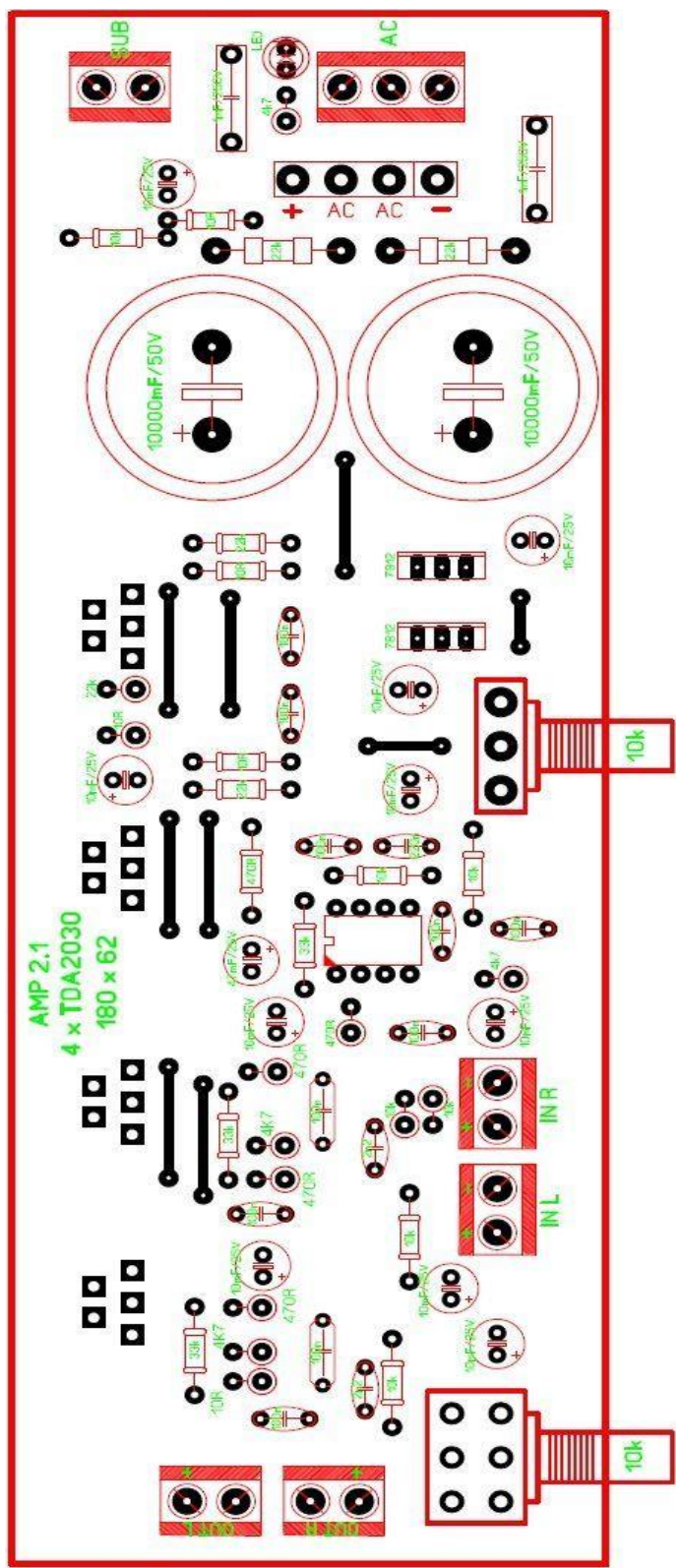
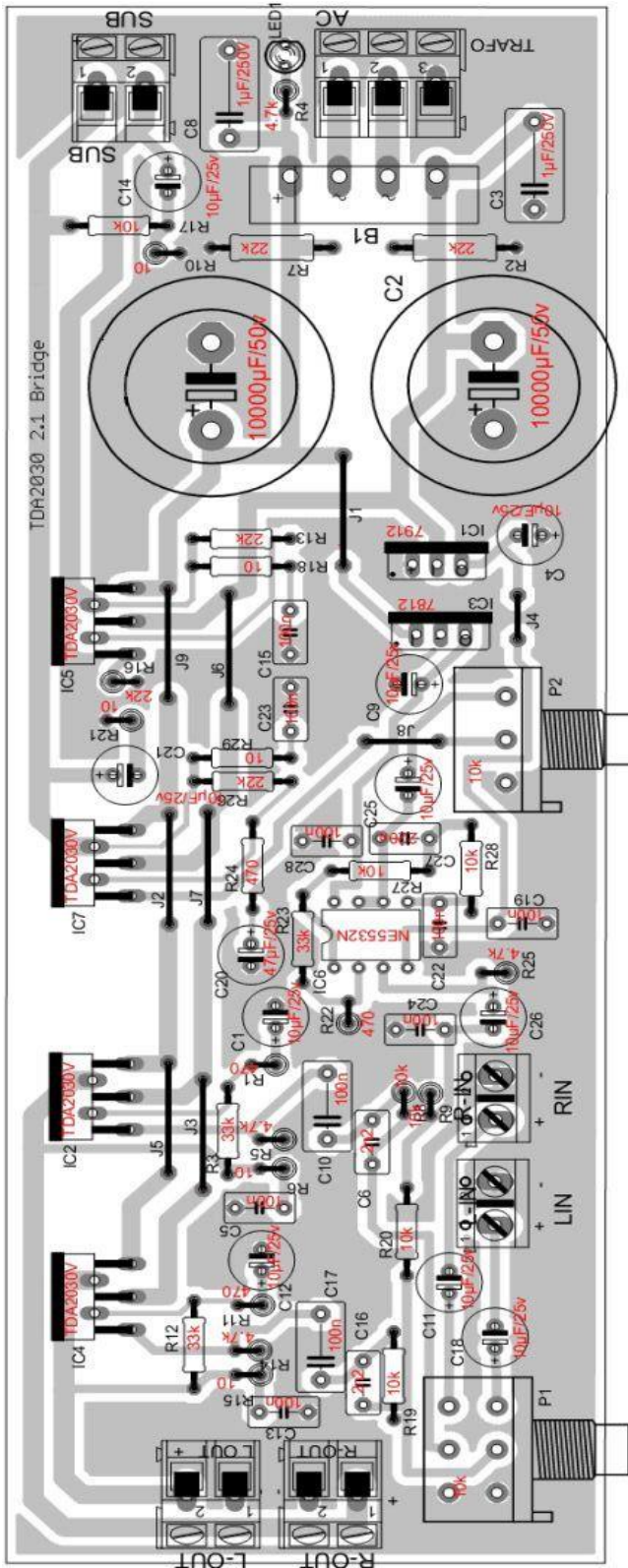
R13, R16, R26	22K
R2, R7,	22K 2 Watts
R3, R12, R23	33K
R4, R5, R14, R25	4.7K
R6, R10, R15, R18, R21, R29	10
R8, R9, R17, R19, R20, R27, R28	10K
Capacitores	
C1, C4	10µF/25v
C2, C7	10000µF/35v
C3, C8	1µF/250V
C5, C10, C13, C15, C17, C19, C22, C23, C24, C28	100n/ 100V
C6, C16,	2n2/100V
C9, C11, C12, C14, C18, C21, C25, C26	10µF/25v
C20	47µF/25v
C27	220n/100V
Semicondutores	
IC1	7912T
IC2, IC4, IC5, IC7	TDA2030V

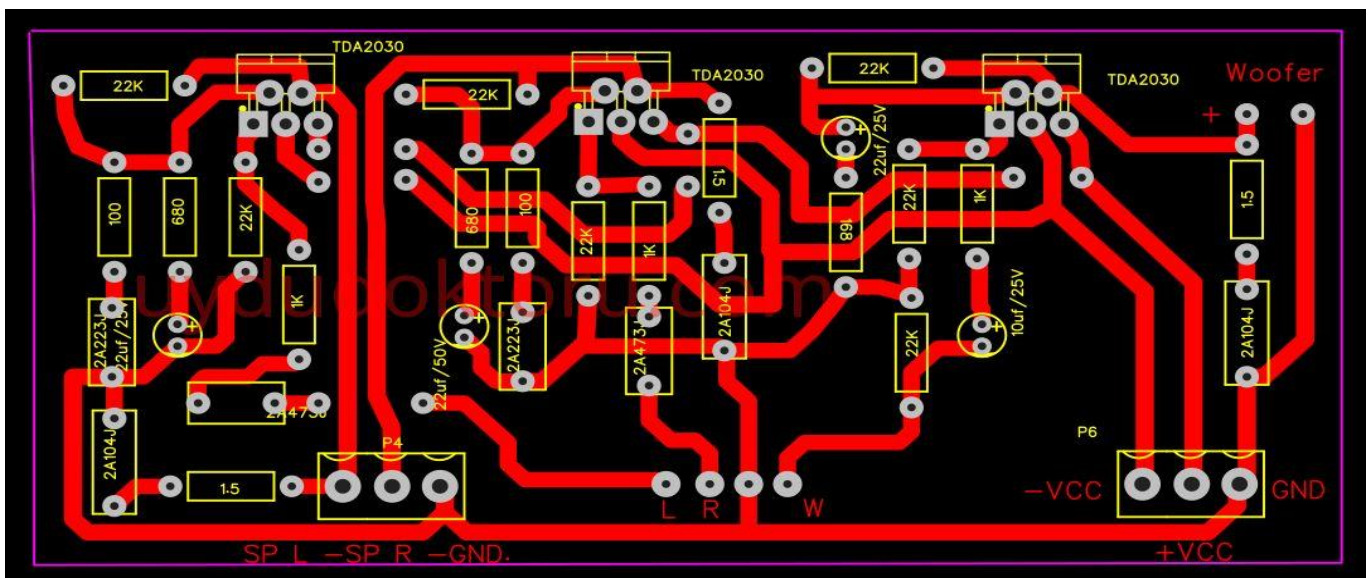
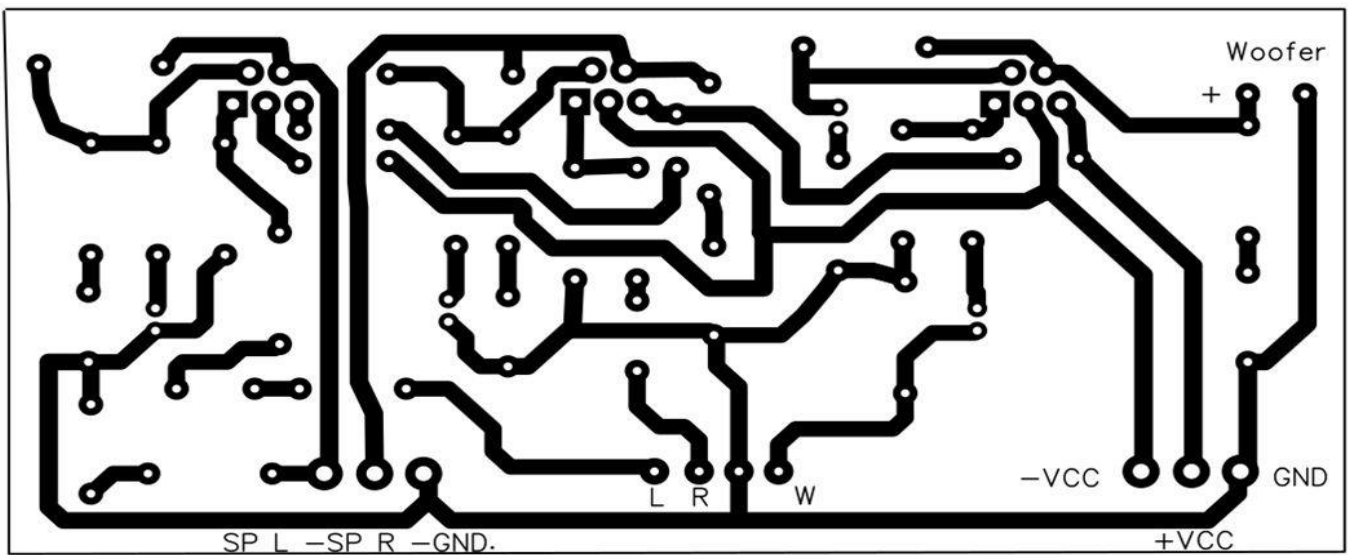
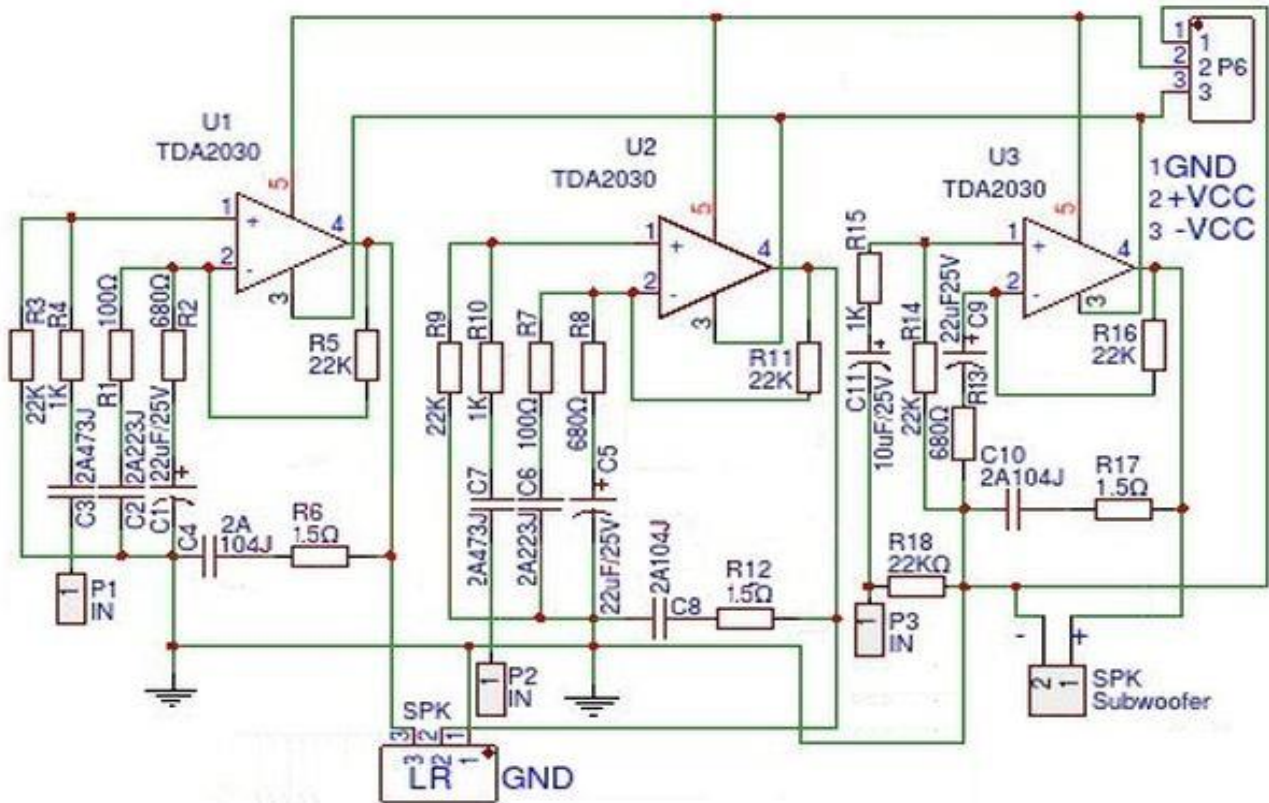
IC3	7812T
IC6	NE5532N
B1	KBU8B -100V 8A
LED1	Led 3 ou 5 mm
Conectores	
R-IN	Conector de 2 terminais
R-OUT	Conector de 2 terminais
L-IN	Conector de 2 terminais
L-OUT	Conector de 2 terminais
SUB	Conector de 2 terminais
AC	Conector de 3 terminais
Diversos	
J1, J2, J3, J5, J6, J7, J9	J12MM - 12mm
J4	J5MM - 5mm
J8	J7MM - 7mm
P1	10k
P2	10k



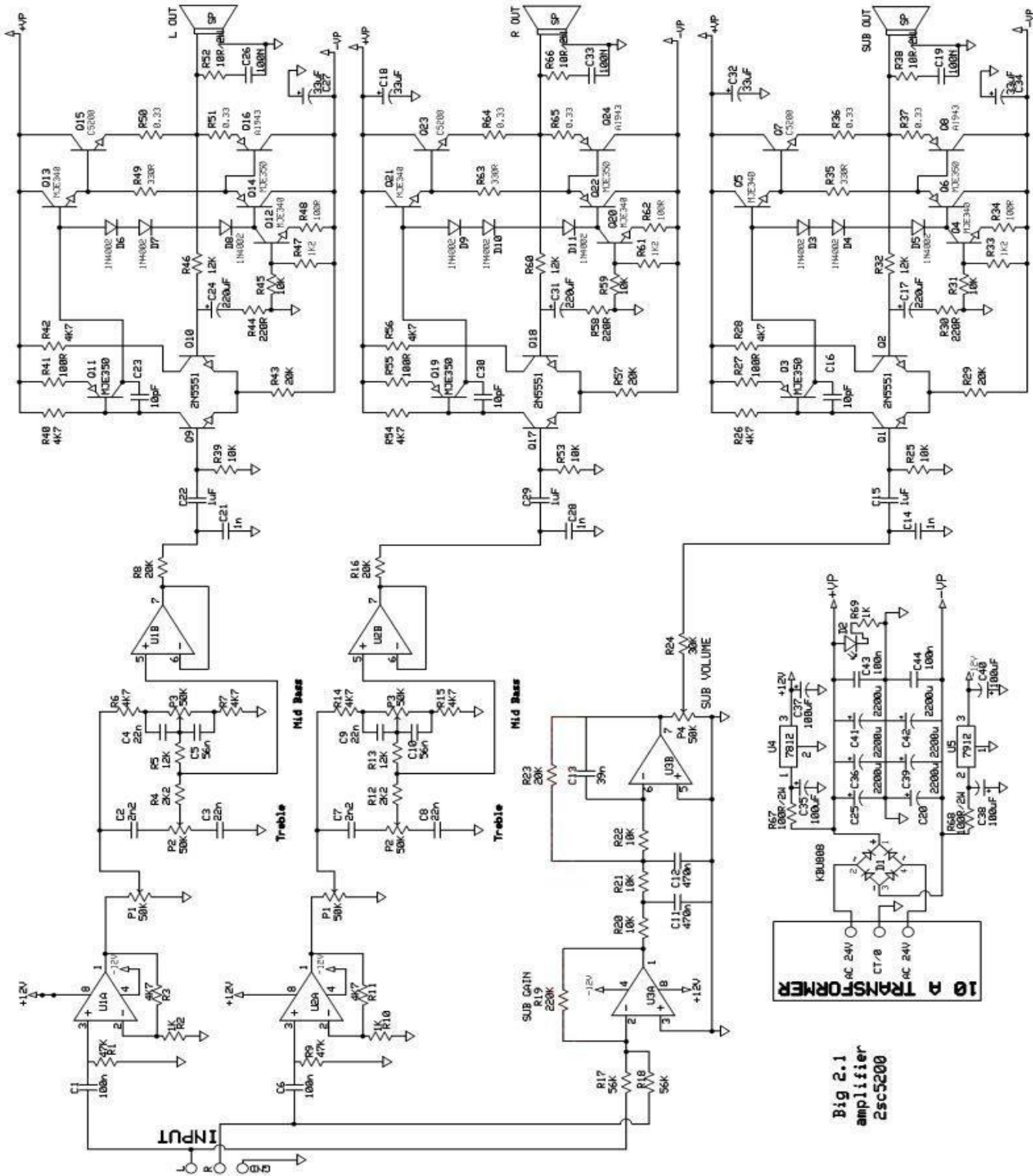




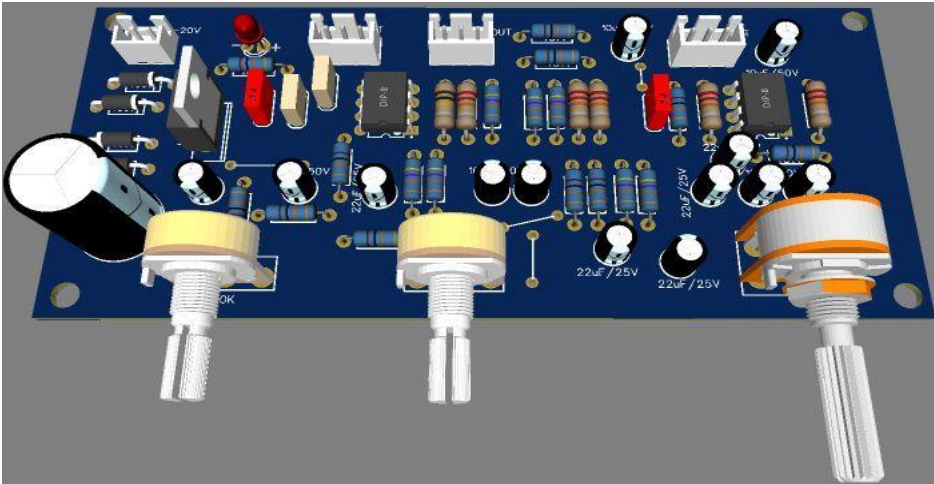


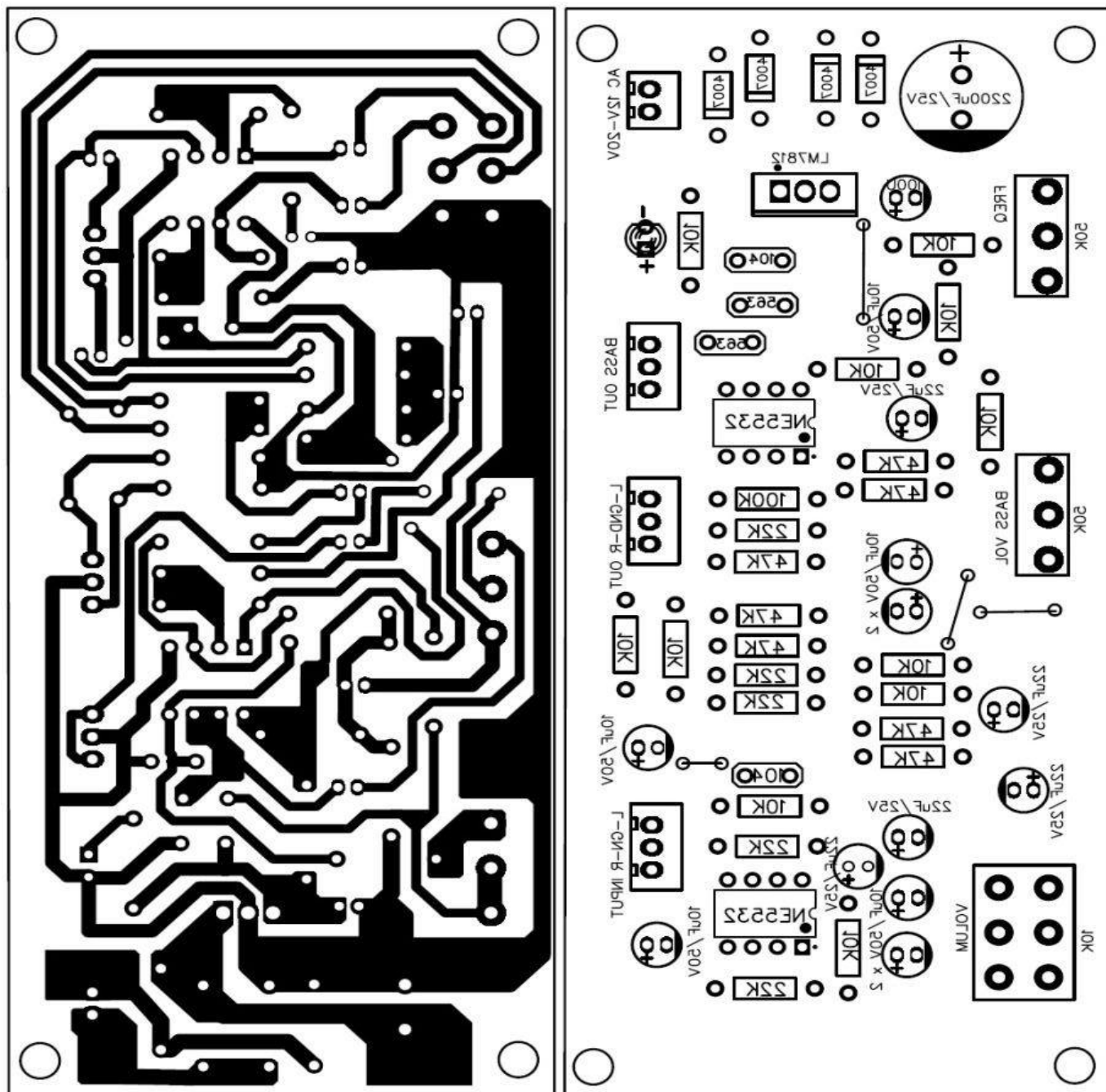


odyo ampli surround 2+1 13-01

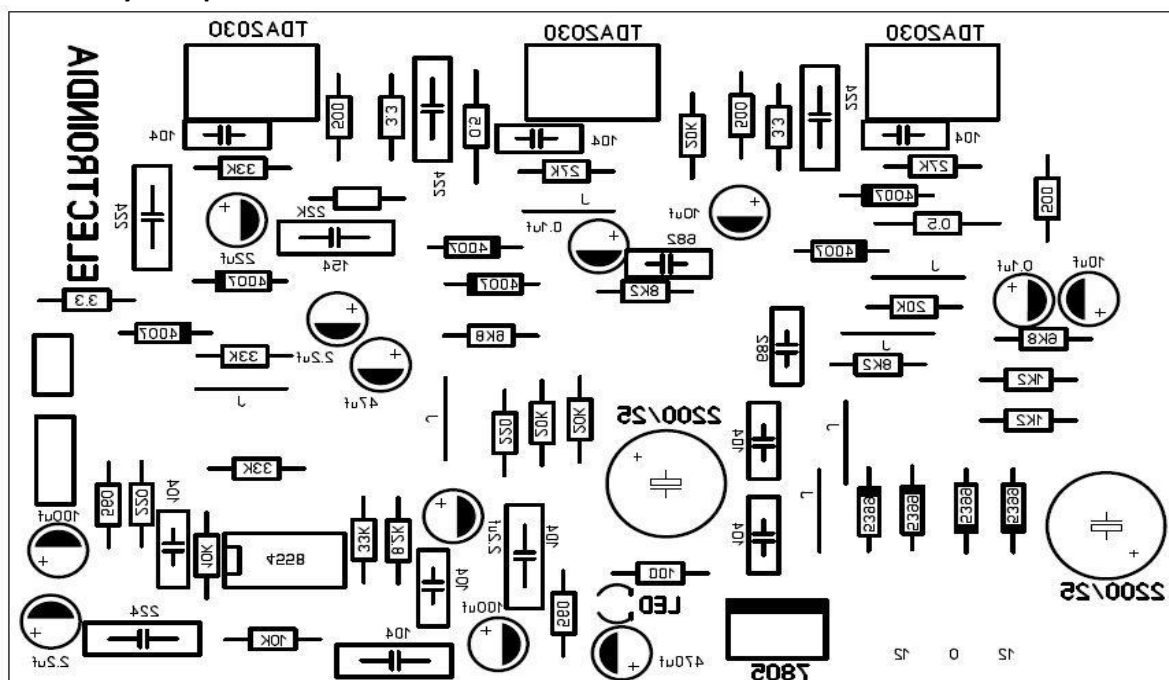


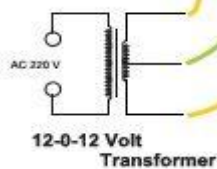
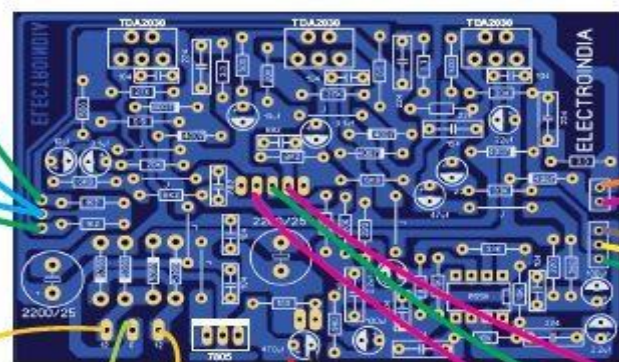
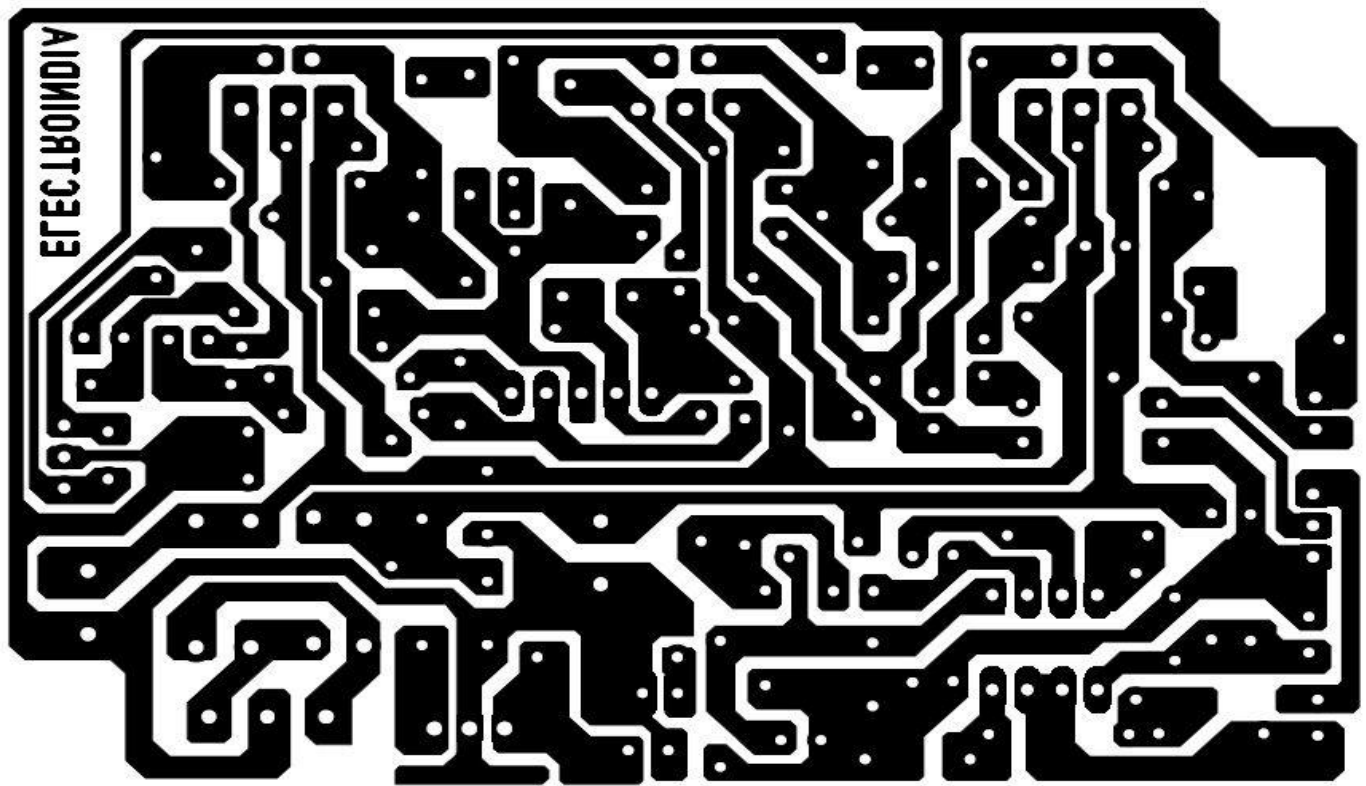
odyo ampli surround 2+1 14-01





odyo ampli surround 2+1 15-01

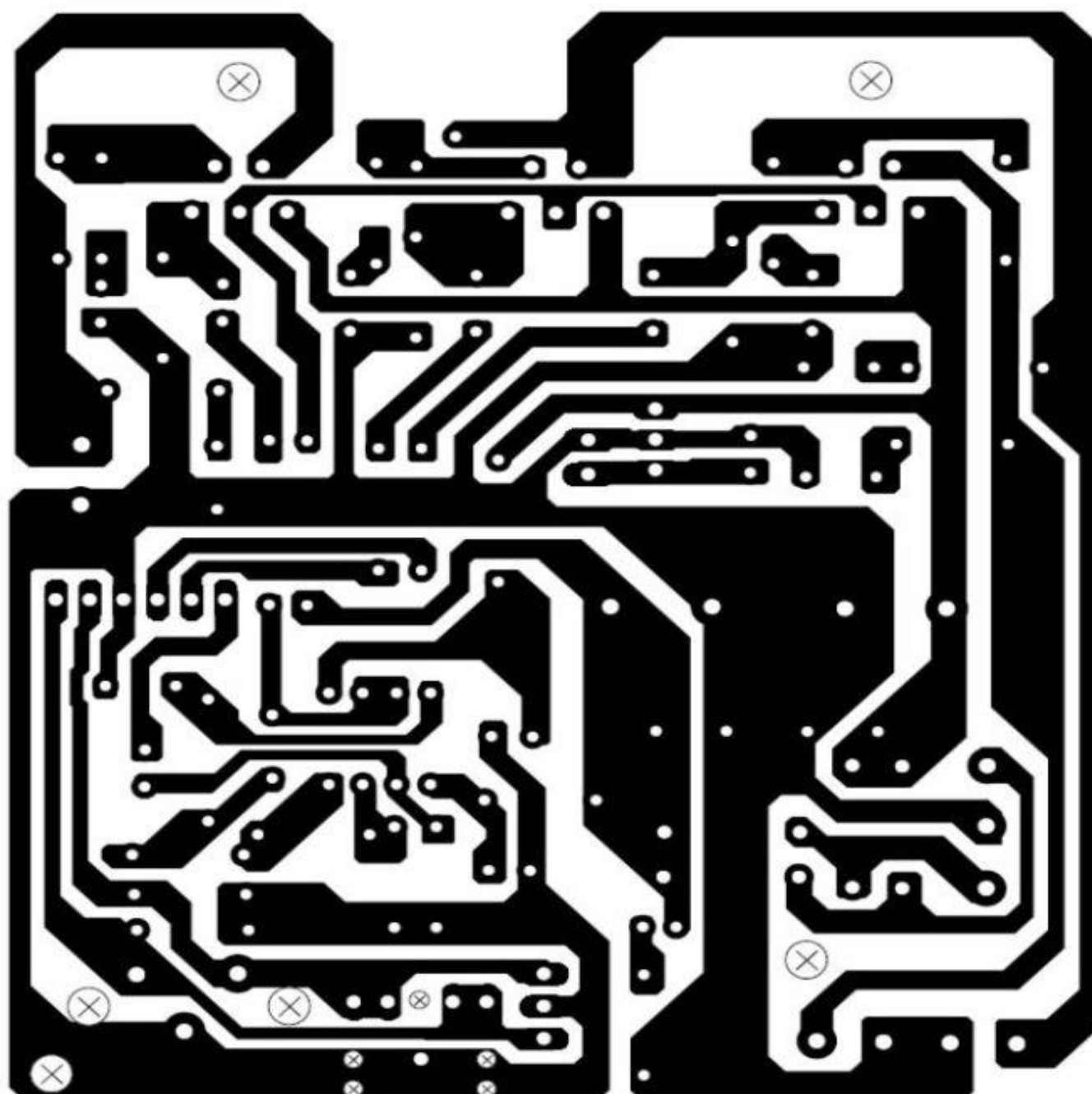
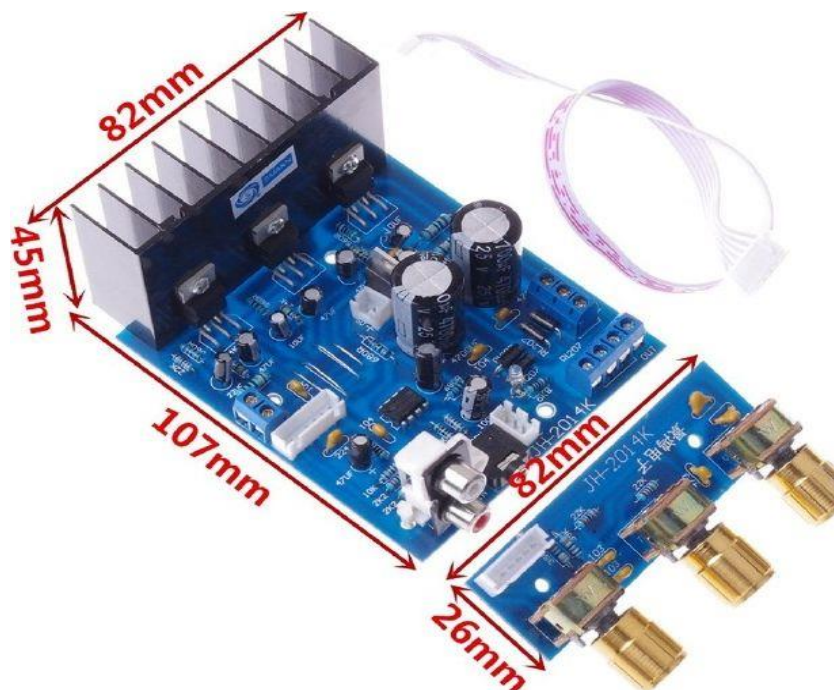


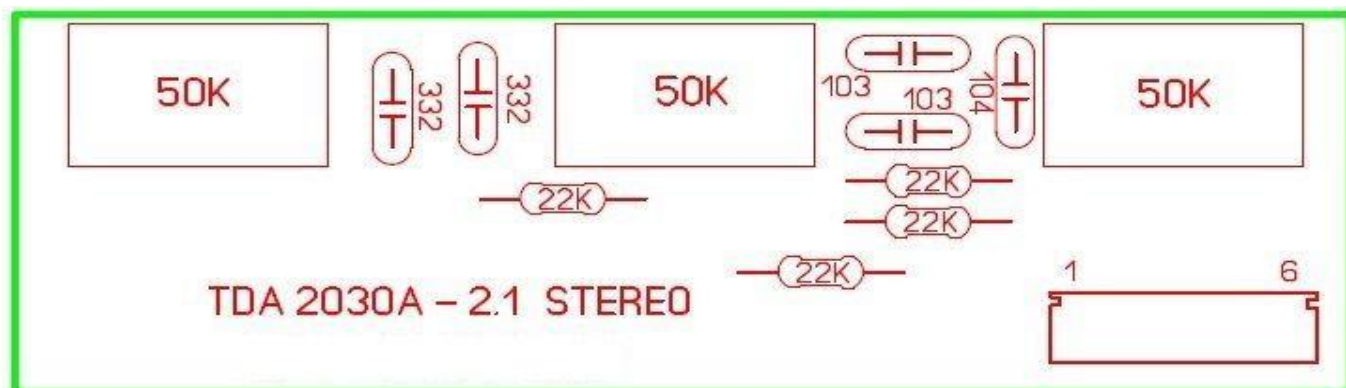
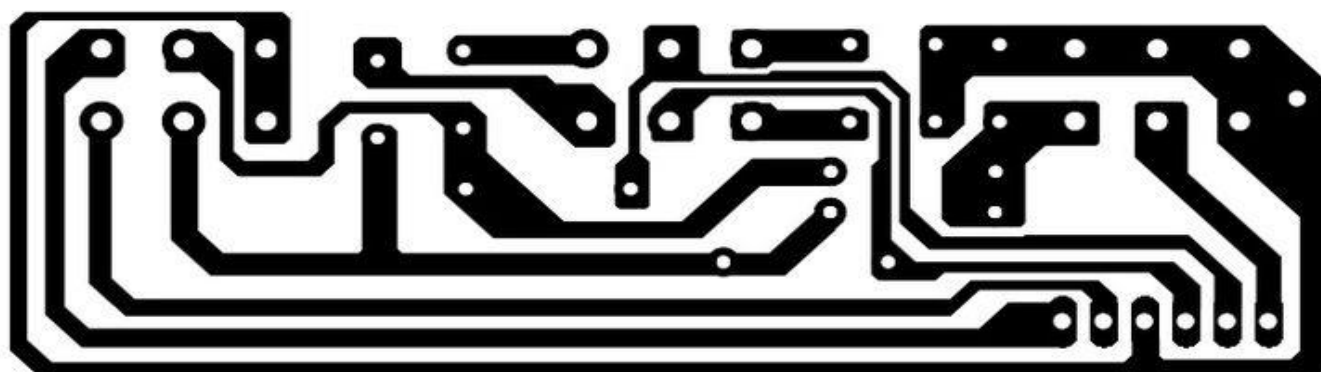
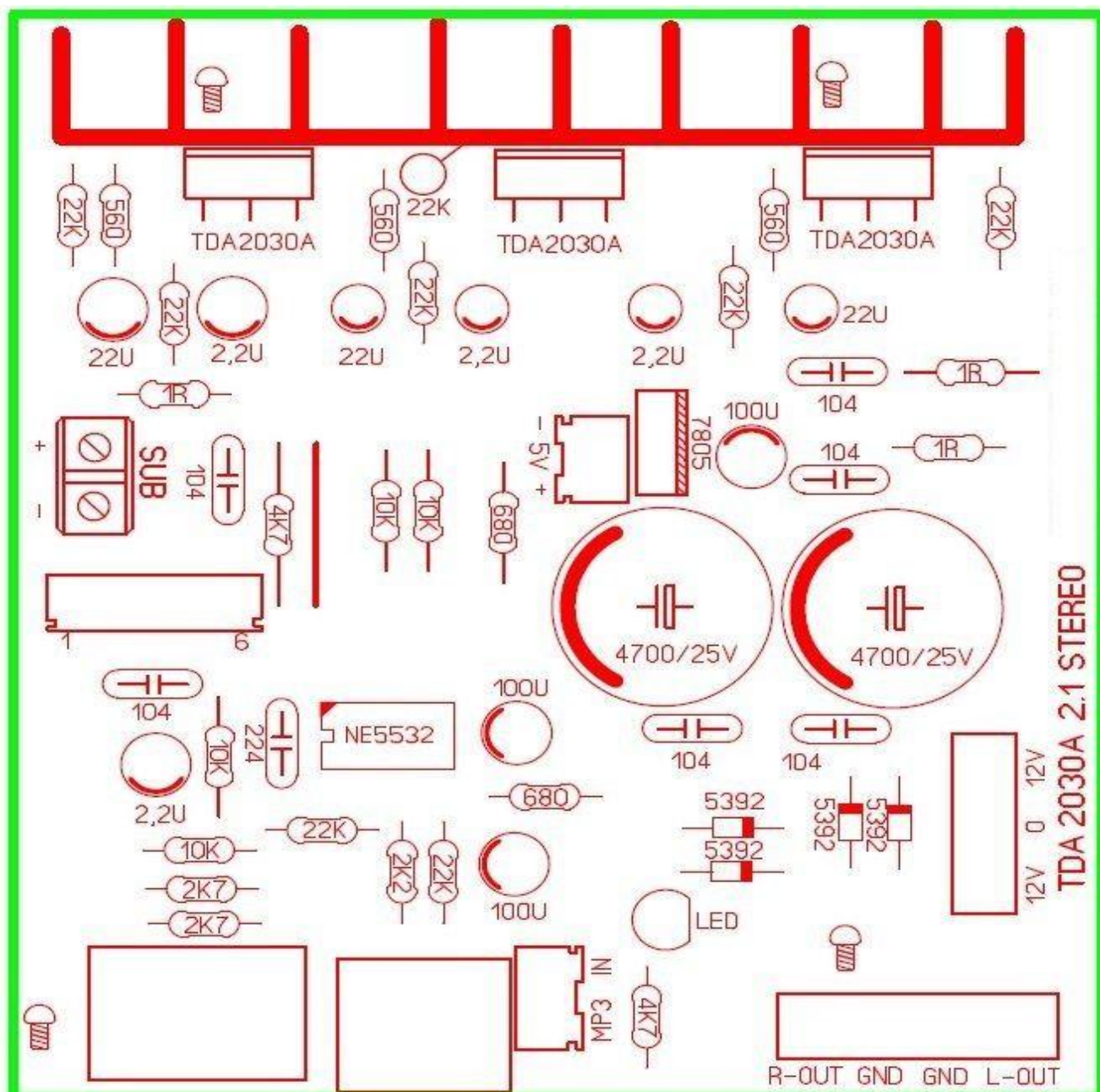


5volt + -

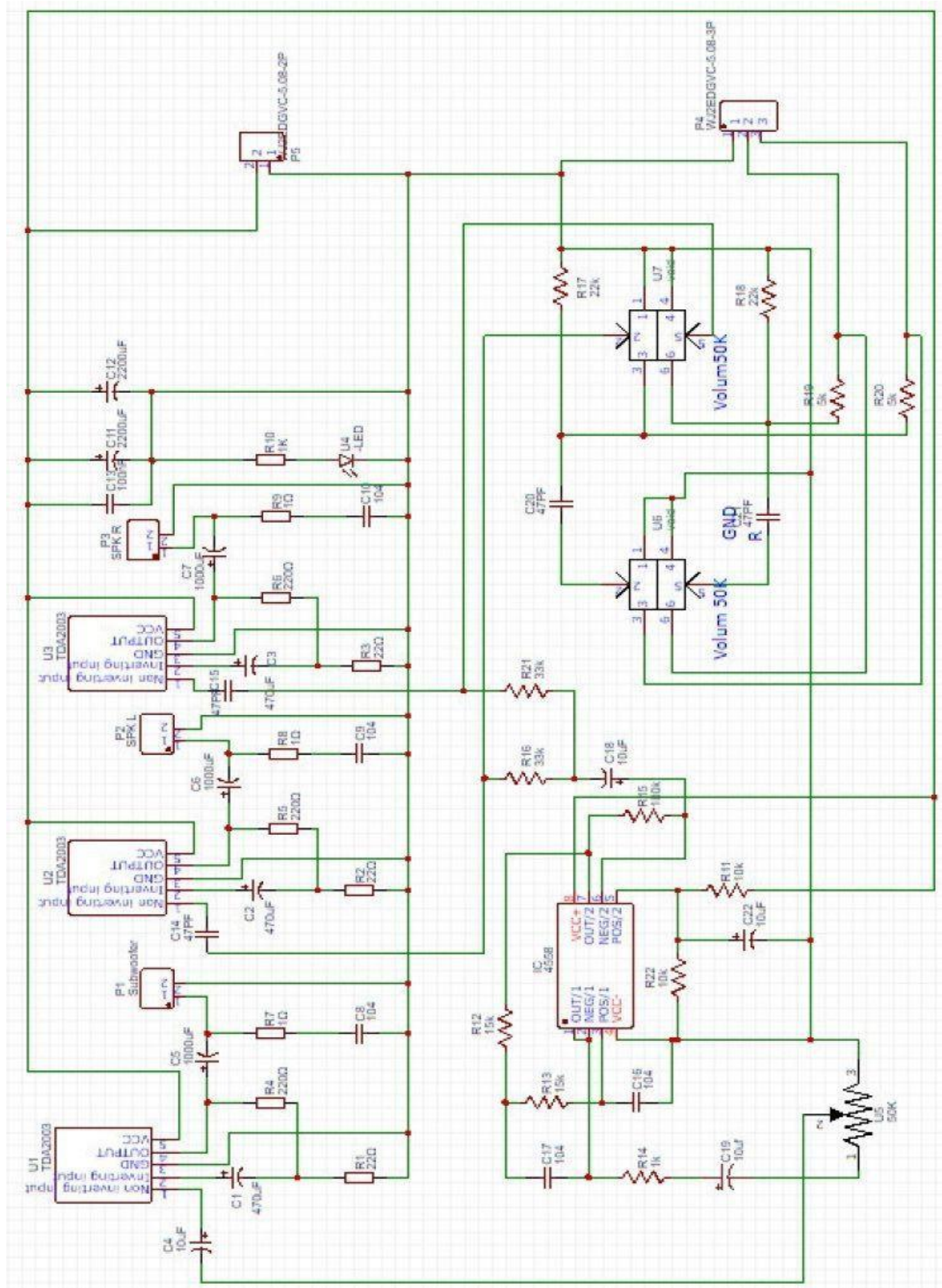


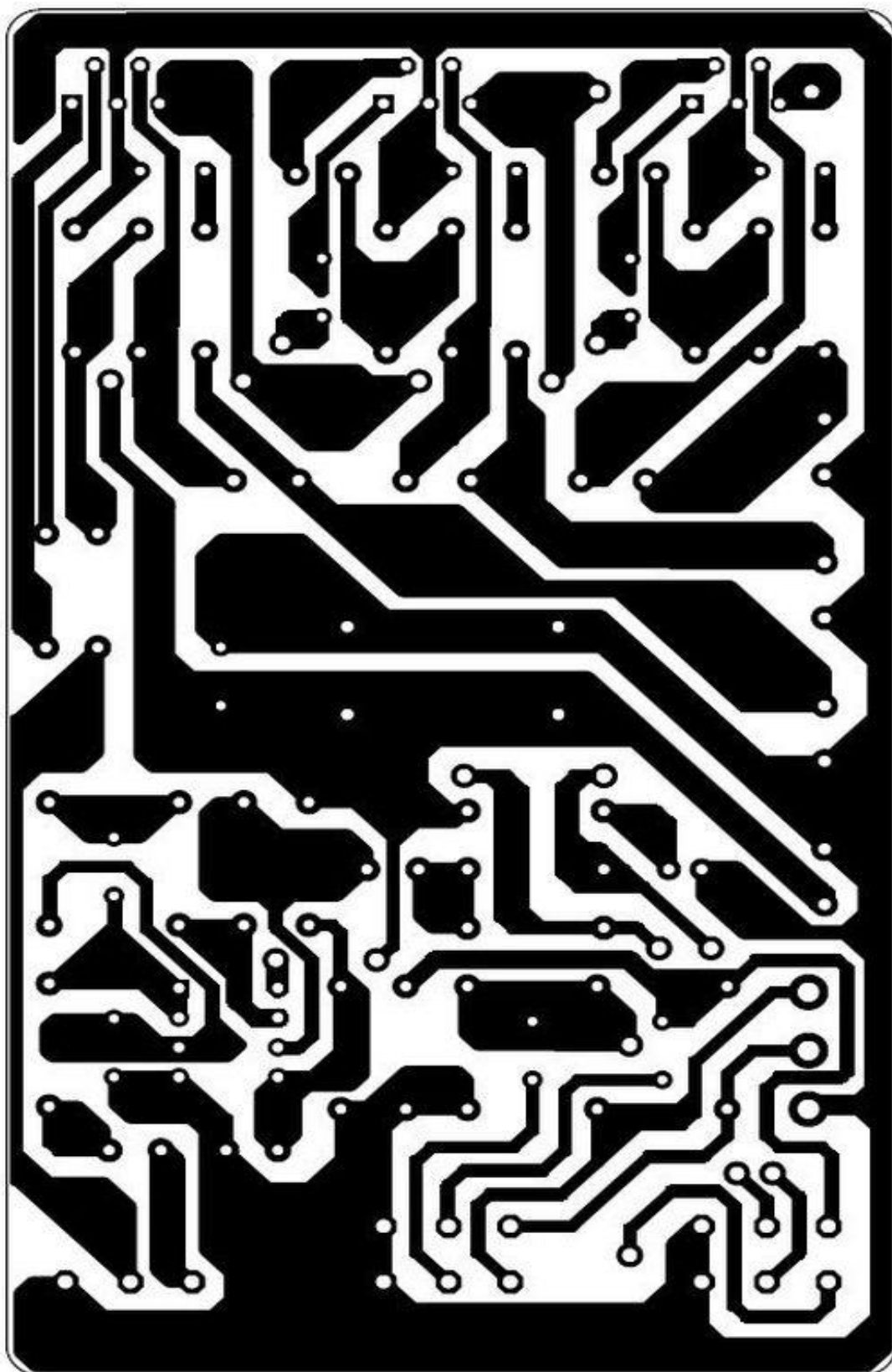
odyo ampli surround 2+1 16-01 TDA2030

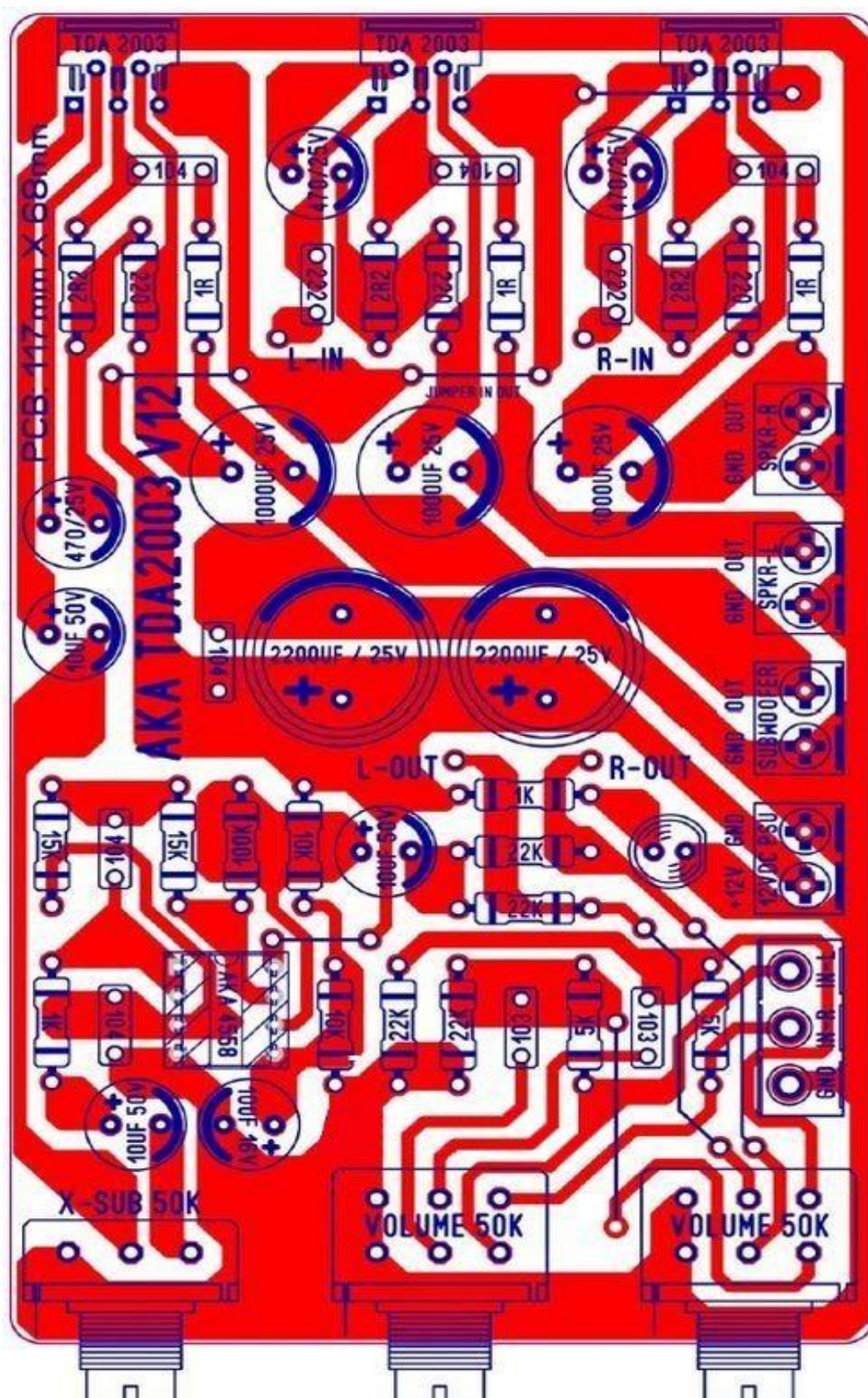




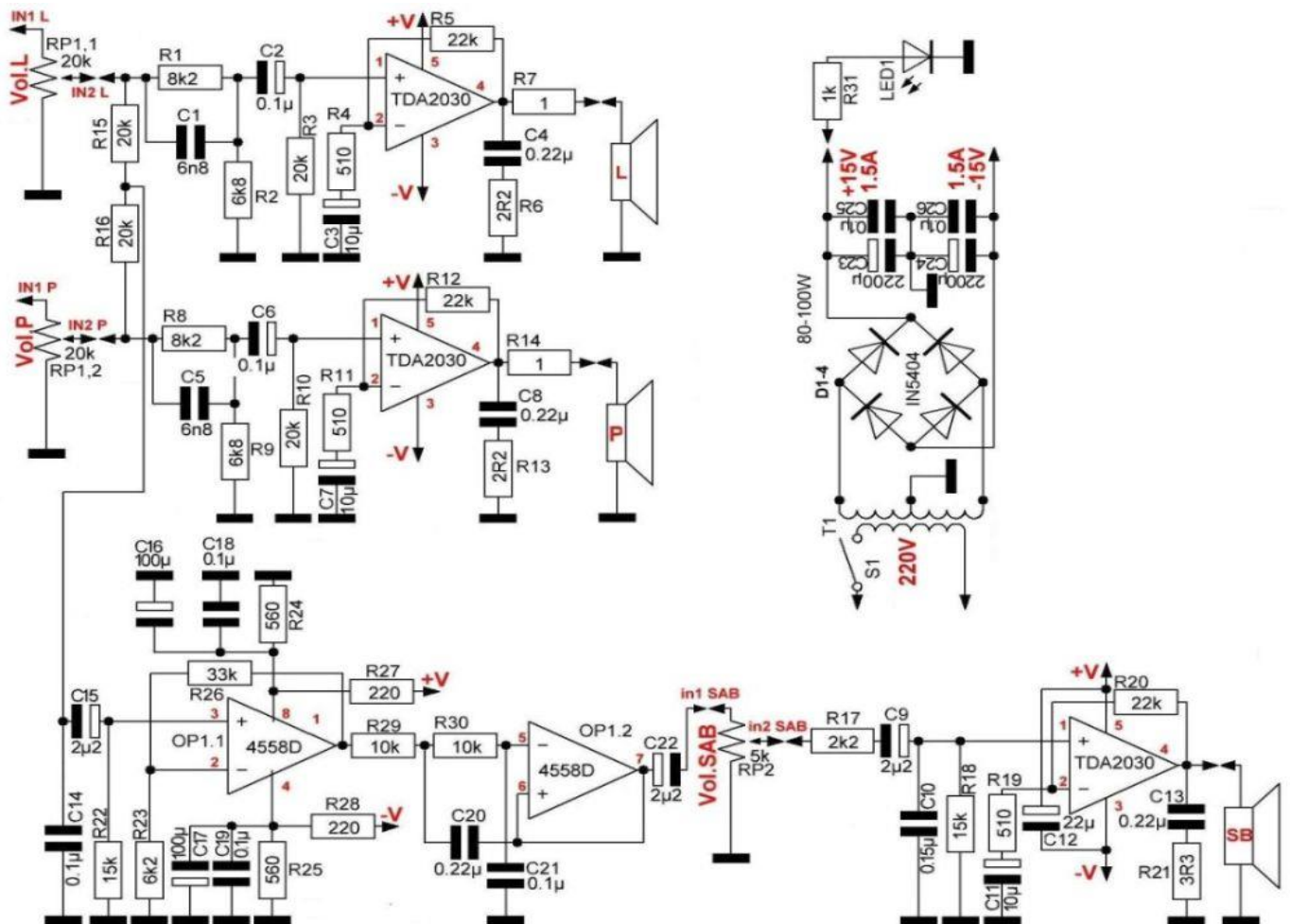
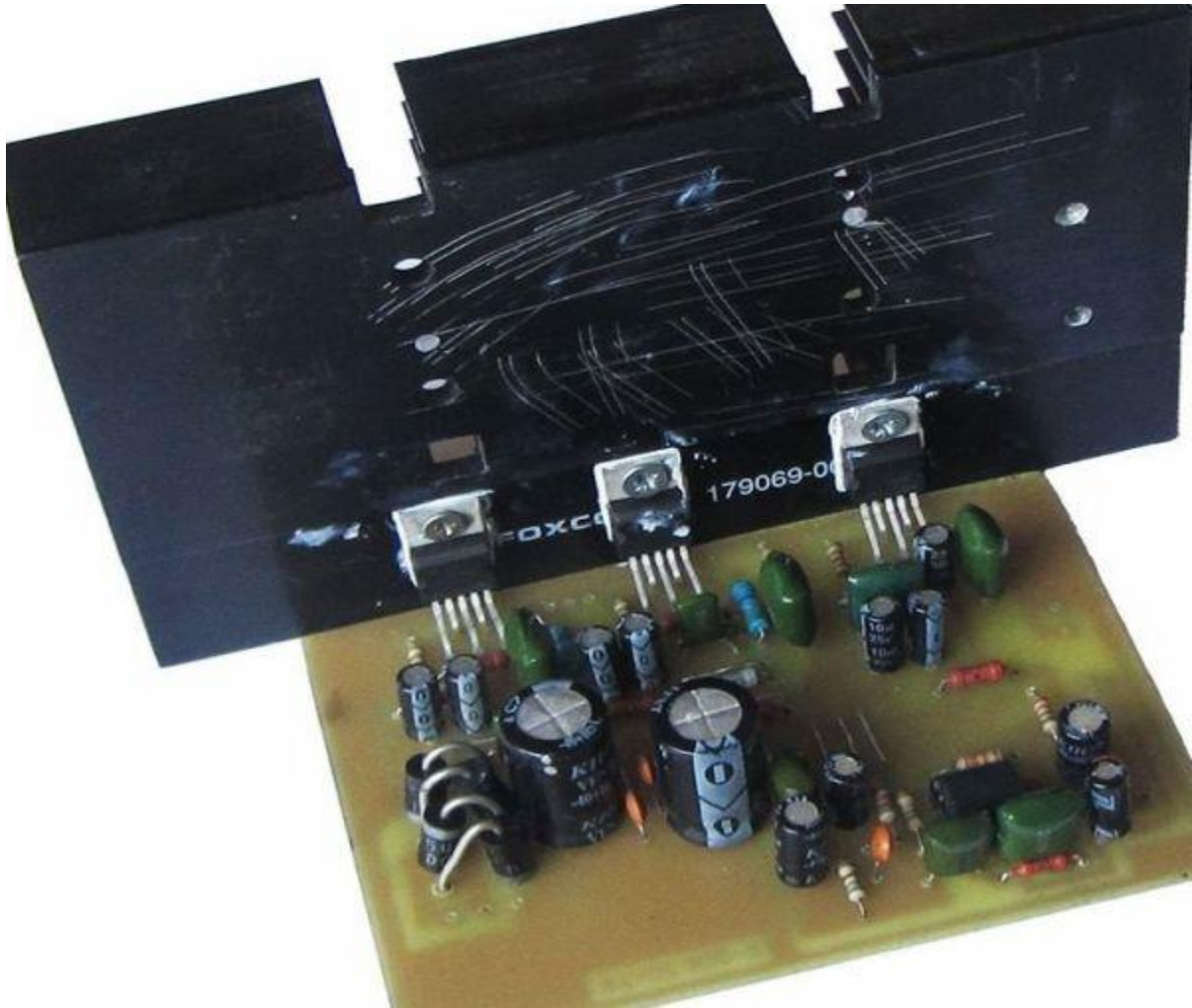
odyo ampli surround 2+1 17-01 TDA2003

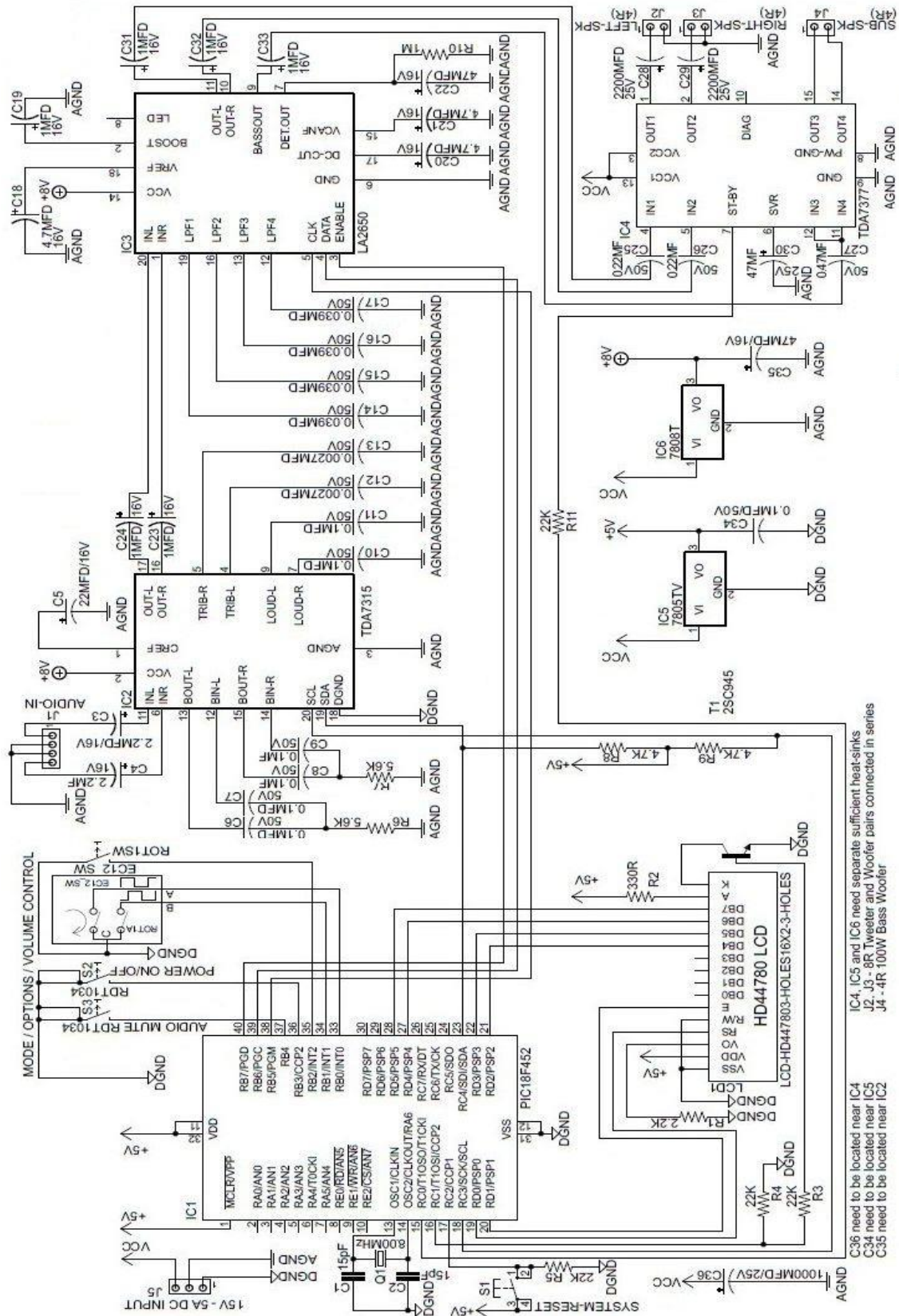


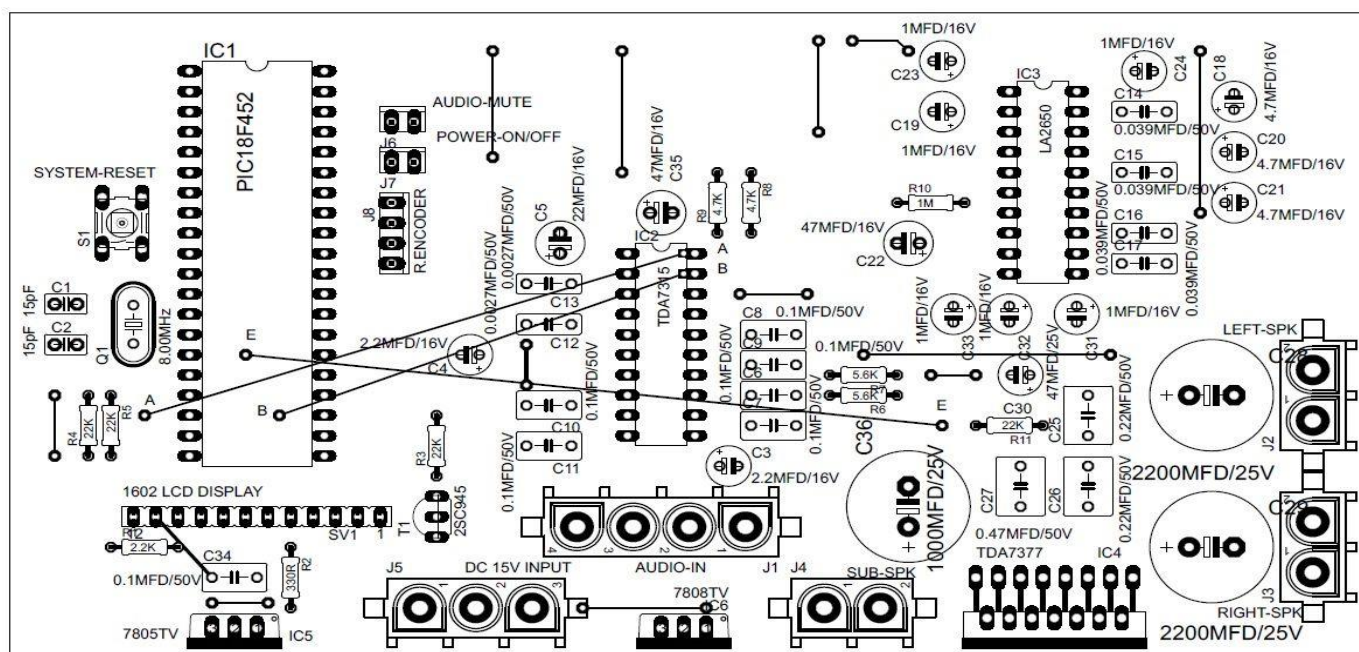
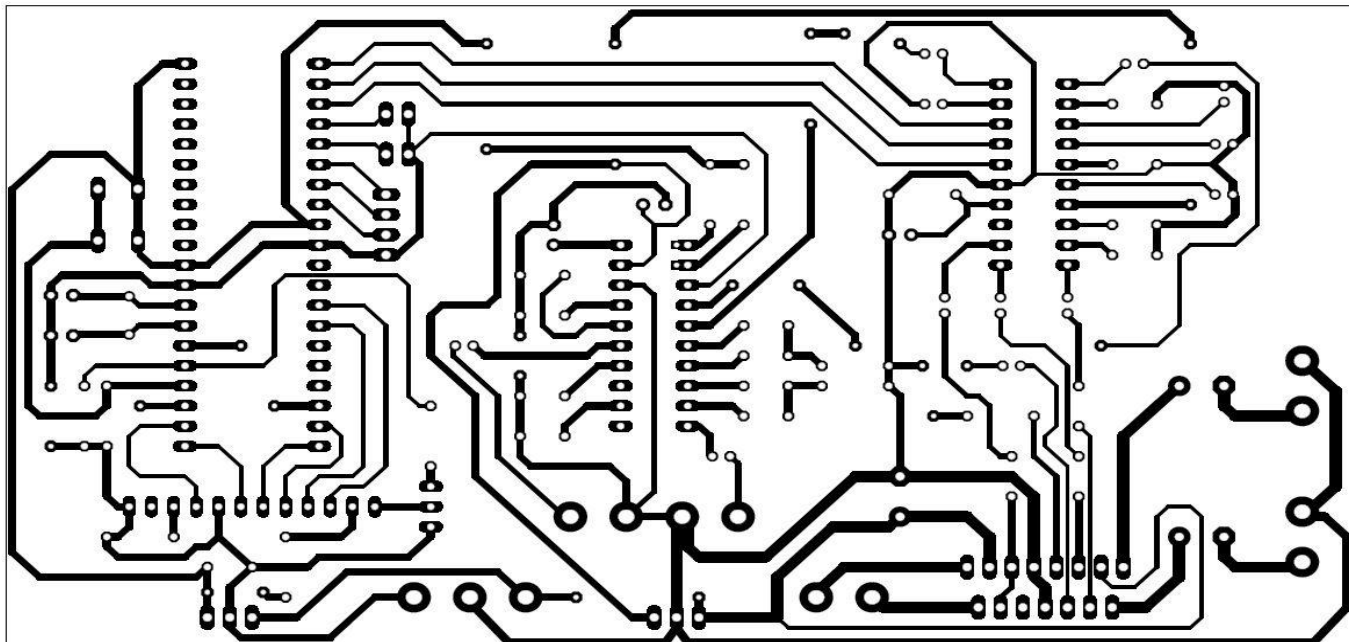




odyo ampli surround 2+1 18-01 TDA2030



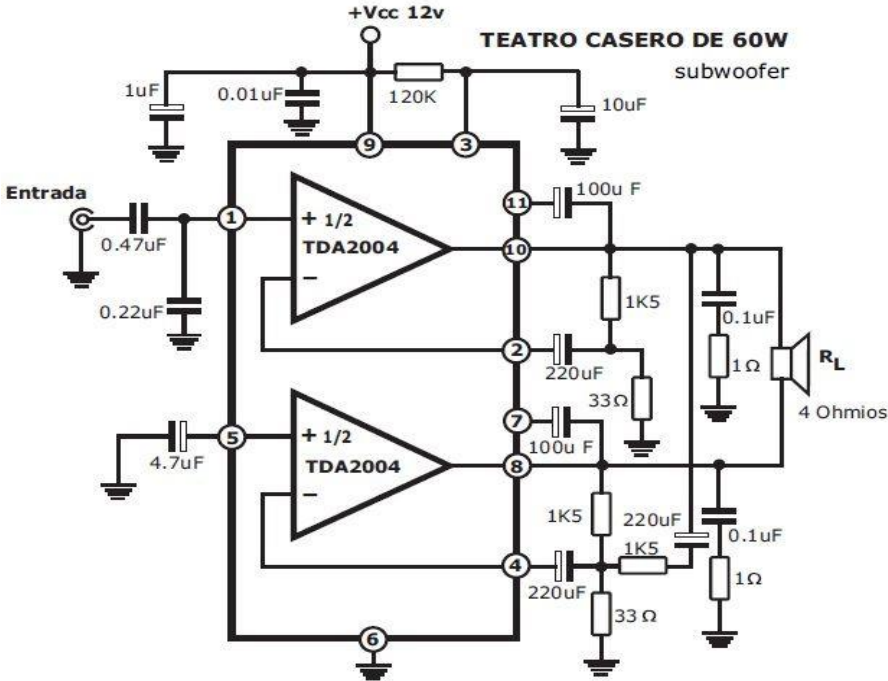
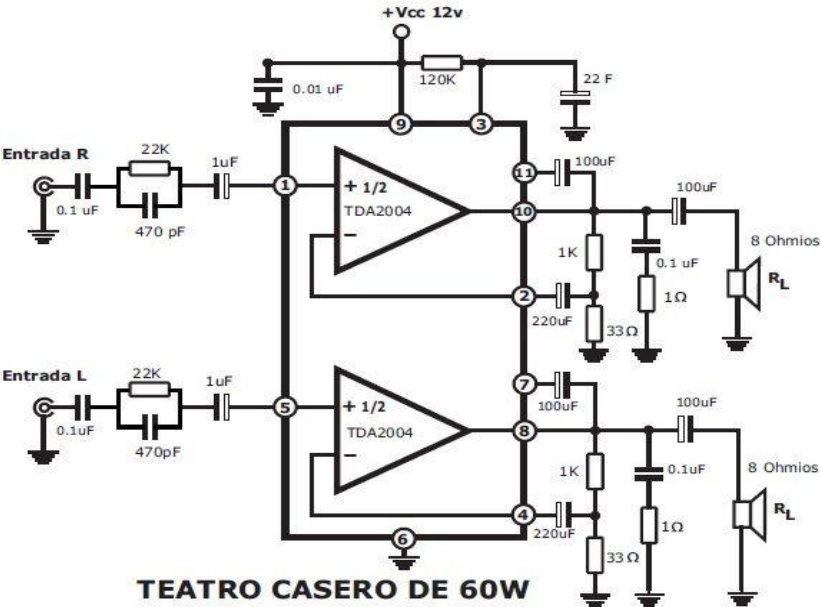
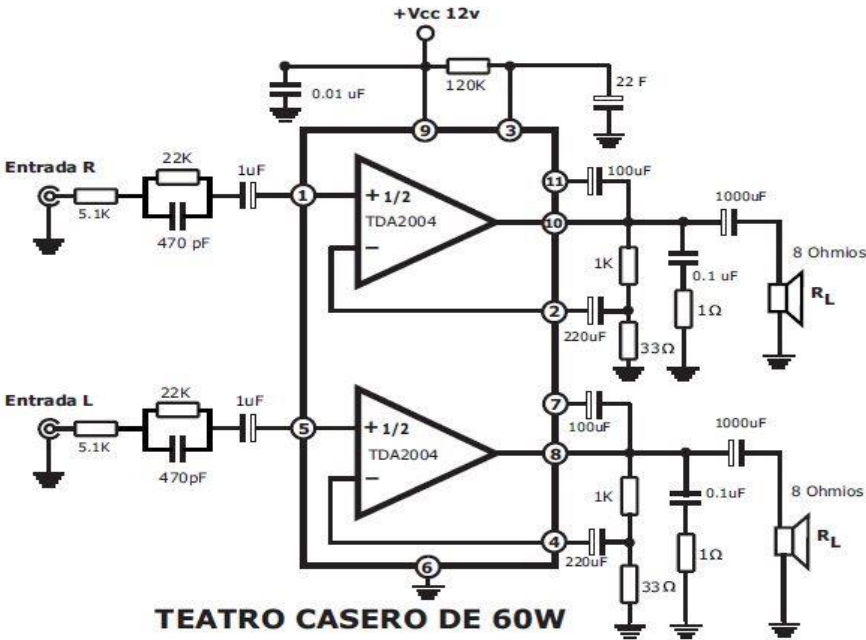


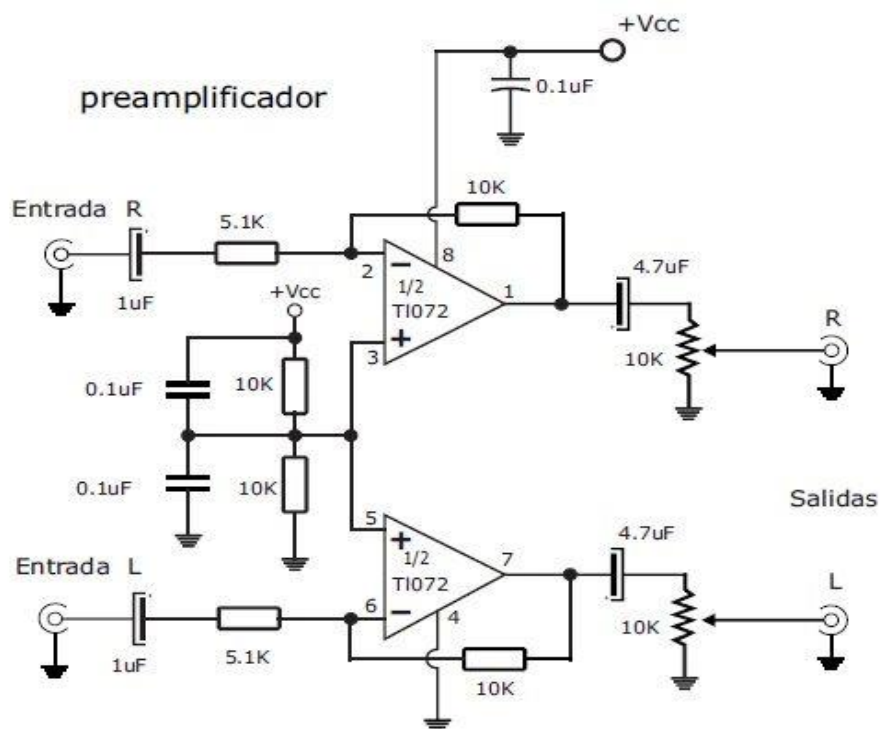
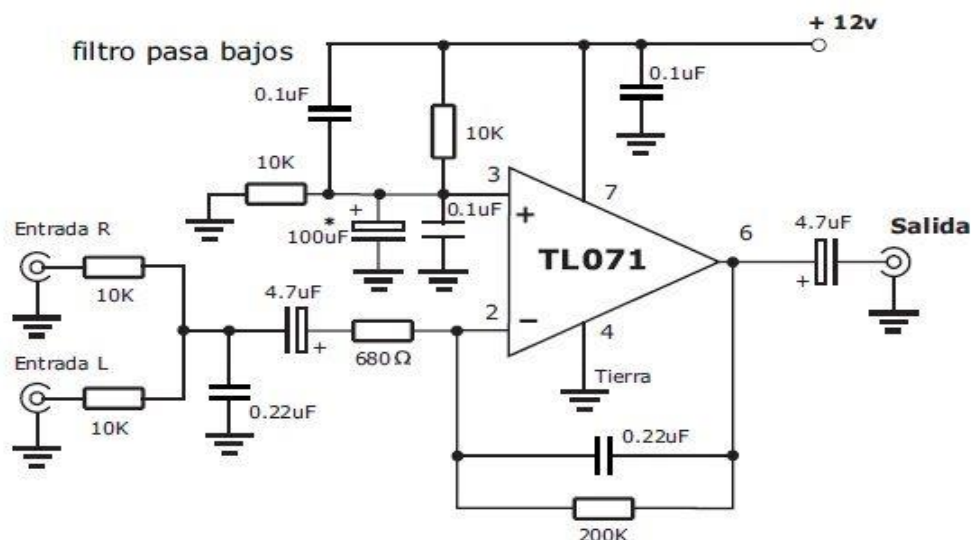


C1, C2	15pF	Q1	8.00MHz HC49U Crystal
C12, C13	0.0027 μ F/50V	T1	2SC945
C14, C15, C16, C17	0.039 μ F/50V	IC1	PIC18F452
C6, C7, C8, C9, C10, C11, C34	0.1 μ F/50V	IC2	TDA7315
C25, C26	0.22 μ F/50V	IC3	LA2650
C27	0.47 μ F/50V	IC4	TDA7377
C19, C23, C24, C31, C32, C33	1 μ F/16V	IC5	L7805
C3, C4	2.2 μ F/16V	IC6	L7808
C18, C20, C21	4.7 μ F/16V	S1	4Pin OMRON tactile switch
C5	22 μ F/16V	S2, S3	2Pin push ON switch
C22, C35	47 μ F/16V	ROT1	360° Rotary Encoder with push button
C30	47 μ F/25V	LCD1	1602 - 16 \times 2 LCD with HD44780 base controller
C36	1000 μ F/25V		
C28, C29	2200 μ F/25V		
R2	330 Ω		
R1	2.2K Ω		
R8, R9	4.7K Ω		
R6, R7	5.6K Ω		
R3, R4, R5, R11	22K Ω		
R10	1M Ω		

All the resistors are 1/4W carbon film type.

All capacitors which range between 0.0027 μ F to 0.47 μ F are Mylar capacitors.





Integrados

3 TDA2004 ó TDA2005

1 TI072

1 TL071

Condensadores

2 C 1000uF / 16v

9 C 100uF / 16v

7 C 220uF / 16v

1 C 10uF / 16v

7 C 1uF / 16v

2 C 22uF / 16v

5 C 4.7uF / 16v

11 C 100nF (104 poliéster)

2 C 100nF (104 cerámicos)

1 C 0.01uF (103 poliéster)

1 C 0.47uF (474 poliéster)

3 C 0.22uF (224 poliéster)

4 C 470pF (471 cerámico)

1 C 4700uF ó 6800uF / 25v

Resistencias de 1/4W

6 R 1 Ohmio a 1/2W

3 R 120K

1 R 680 Ohmios

4 R 1K

4 R 22K

6 R 10K

Varios

1 puente de diodos de 10 amperios

2 bases para integrados de 8 pines

1 Conector molex de 3 pines de 2.54mm

4 conectores molex de 3 pines de 3.6mm

1 Transformador de 12v 8Amp

1 Porta fusible y fusible de 5 Amp

1 potenciómetro de 10K doble

1 potenciómetro de 10K sencillo

2 conectores para bafle de presión dobles

1 conector para bafle de presión sencillo

1 conector RCA hembra doble

Cable para bafles

Cable blindado estéreo duplex.

1 Disipador de aluminio de 22 cms de largo por 5 cms de alto por 3 de profundidad. (Esto es aproximado)

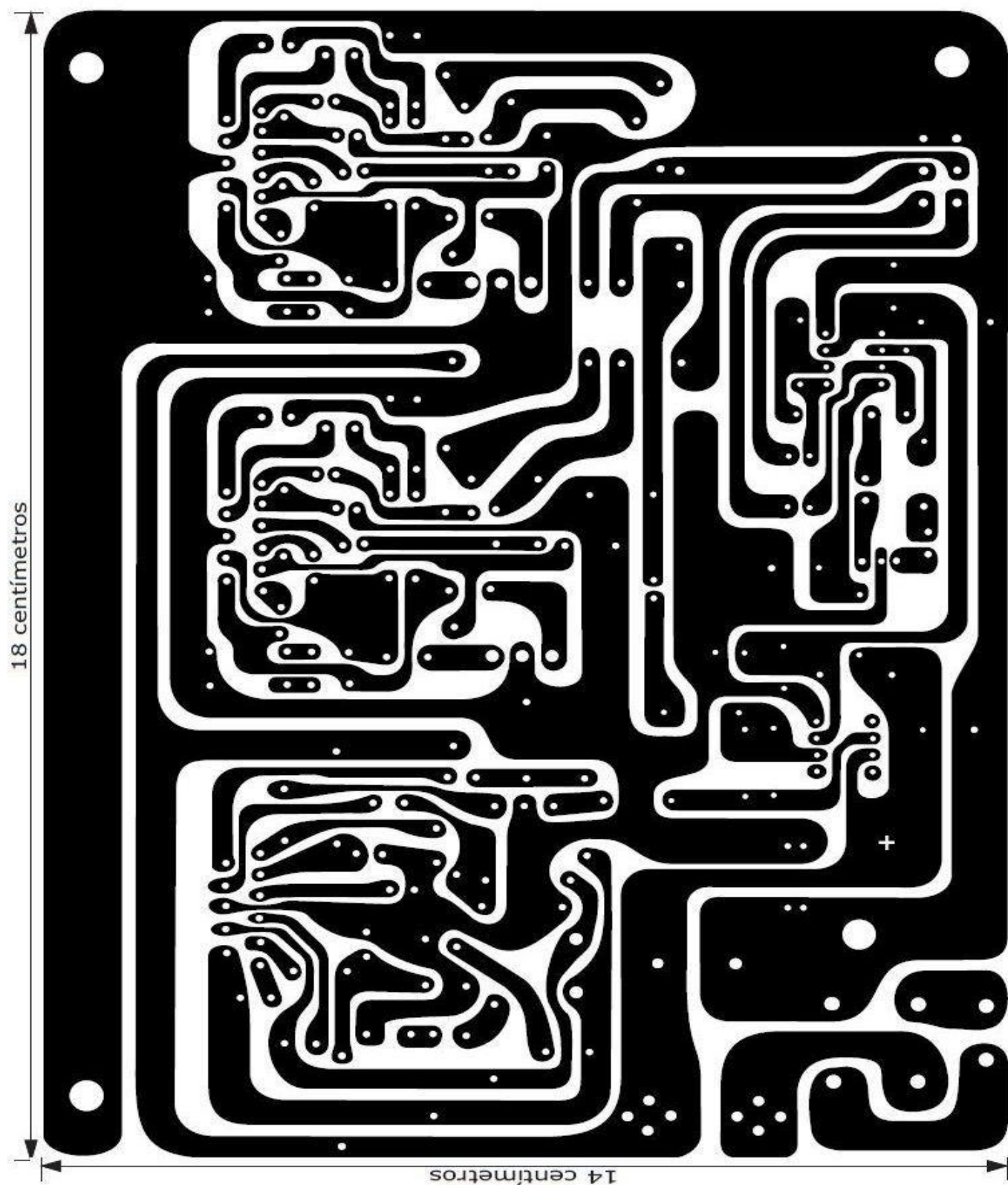
3 tornillos de 1/8 con tuerca y arandela

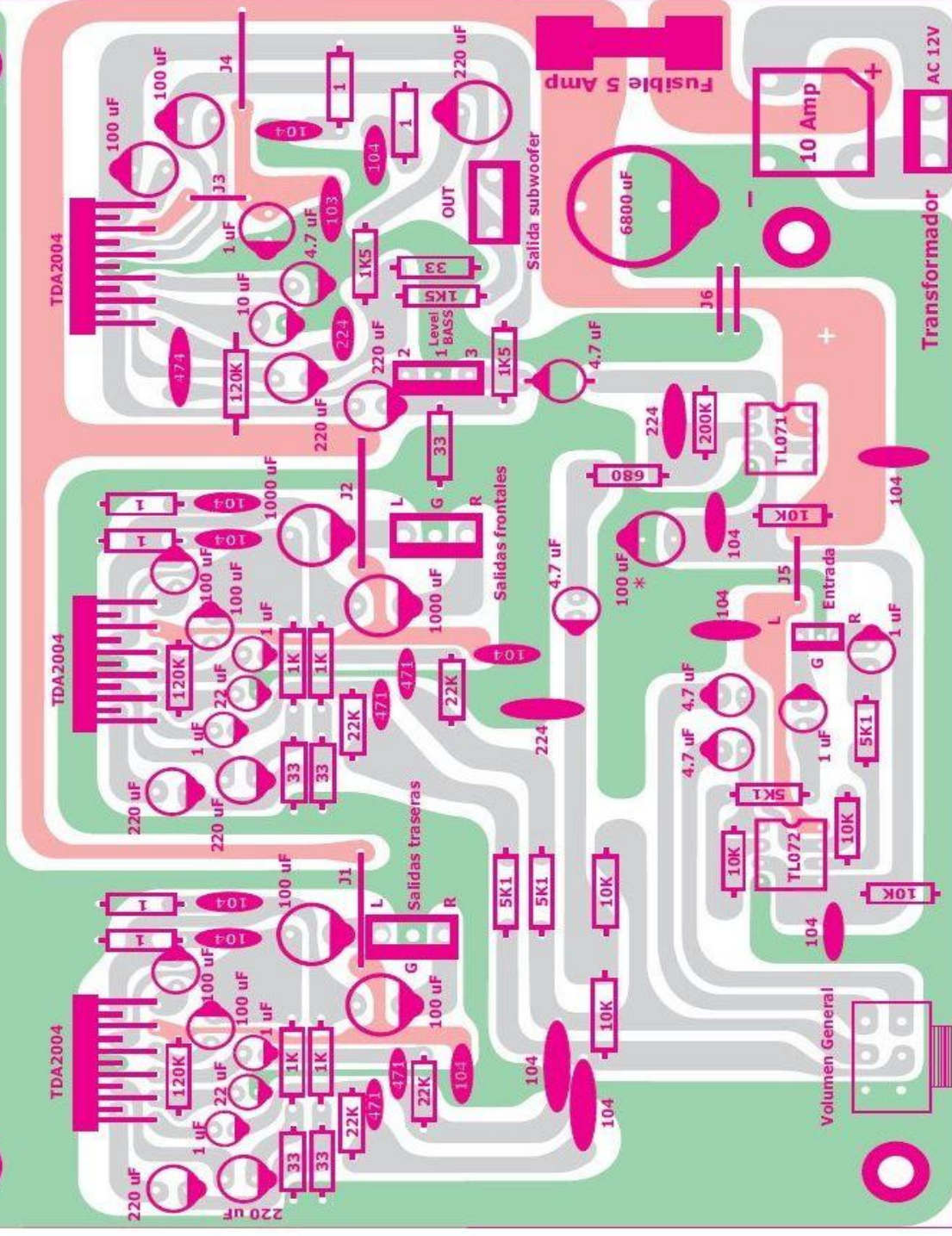
4 R 5K1

6 R 33 Ohmios

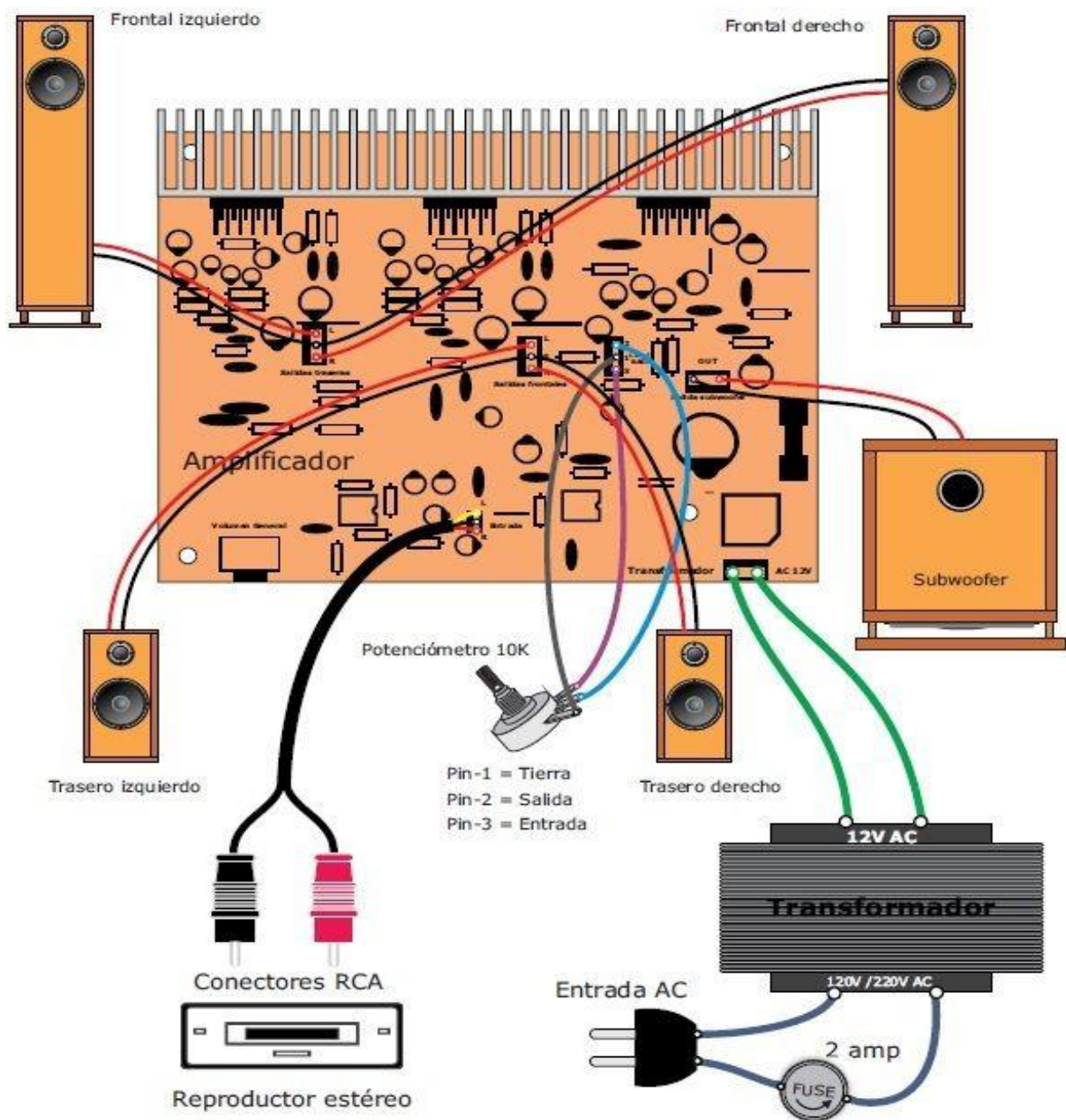
3 R 1.5K

1 R 200 K

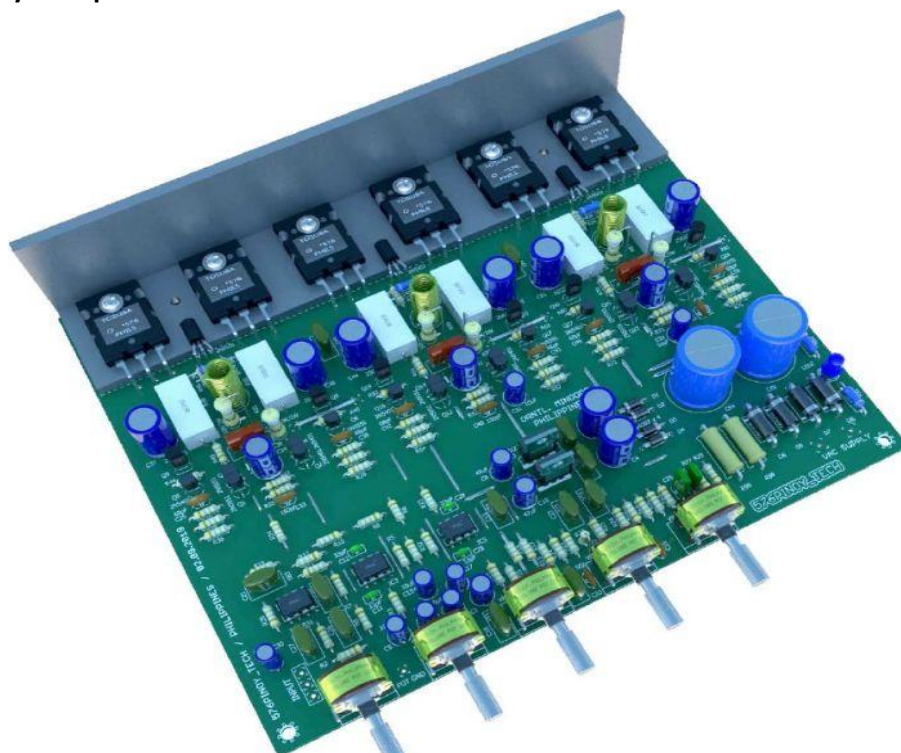


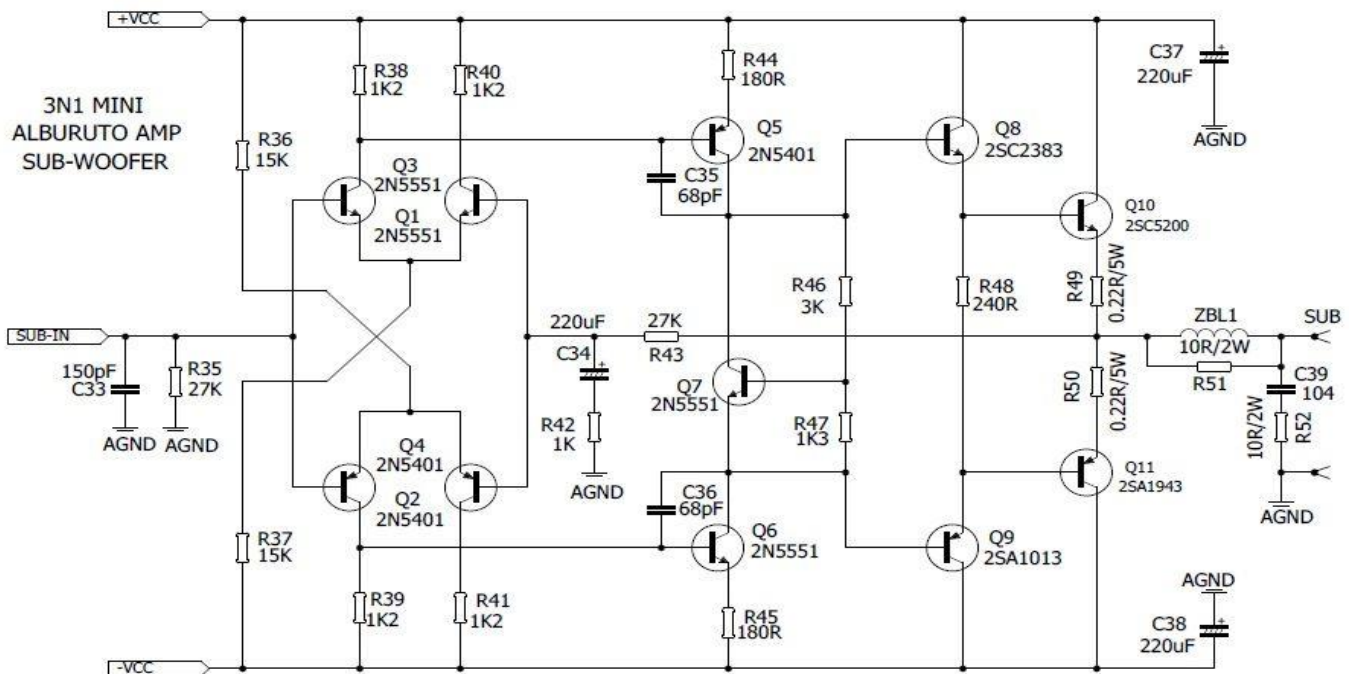
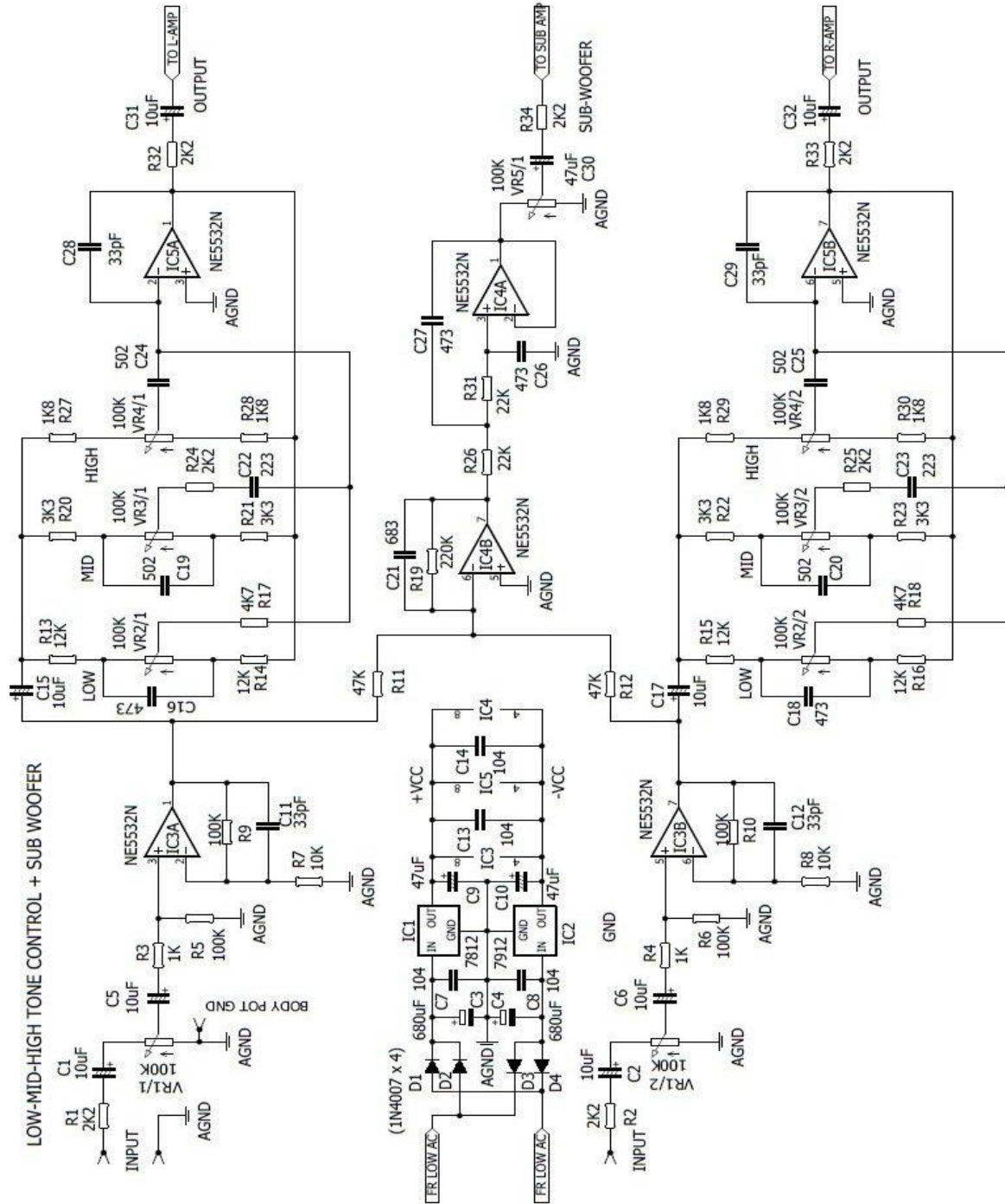


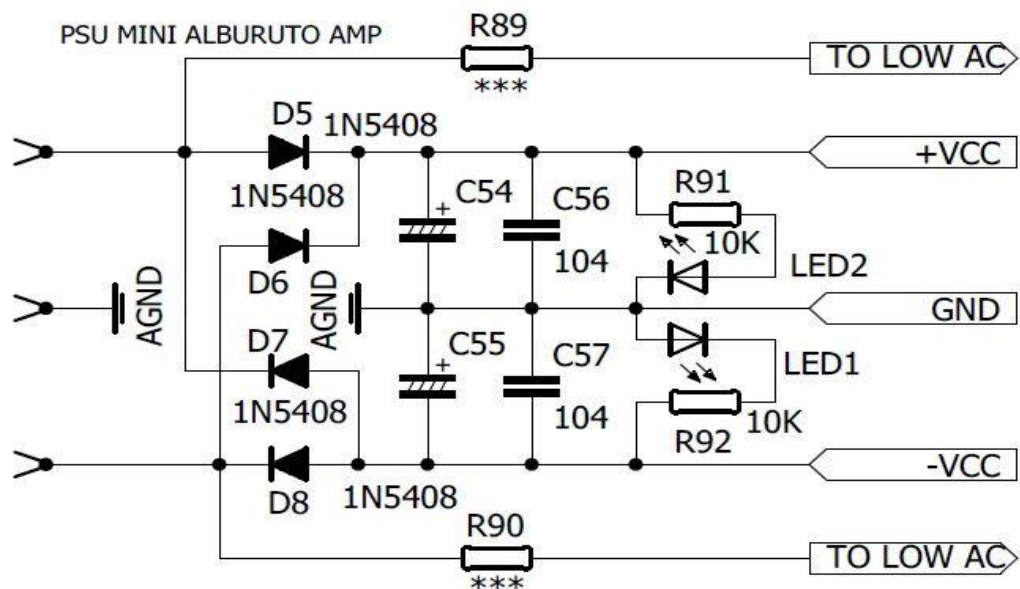
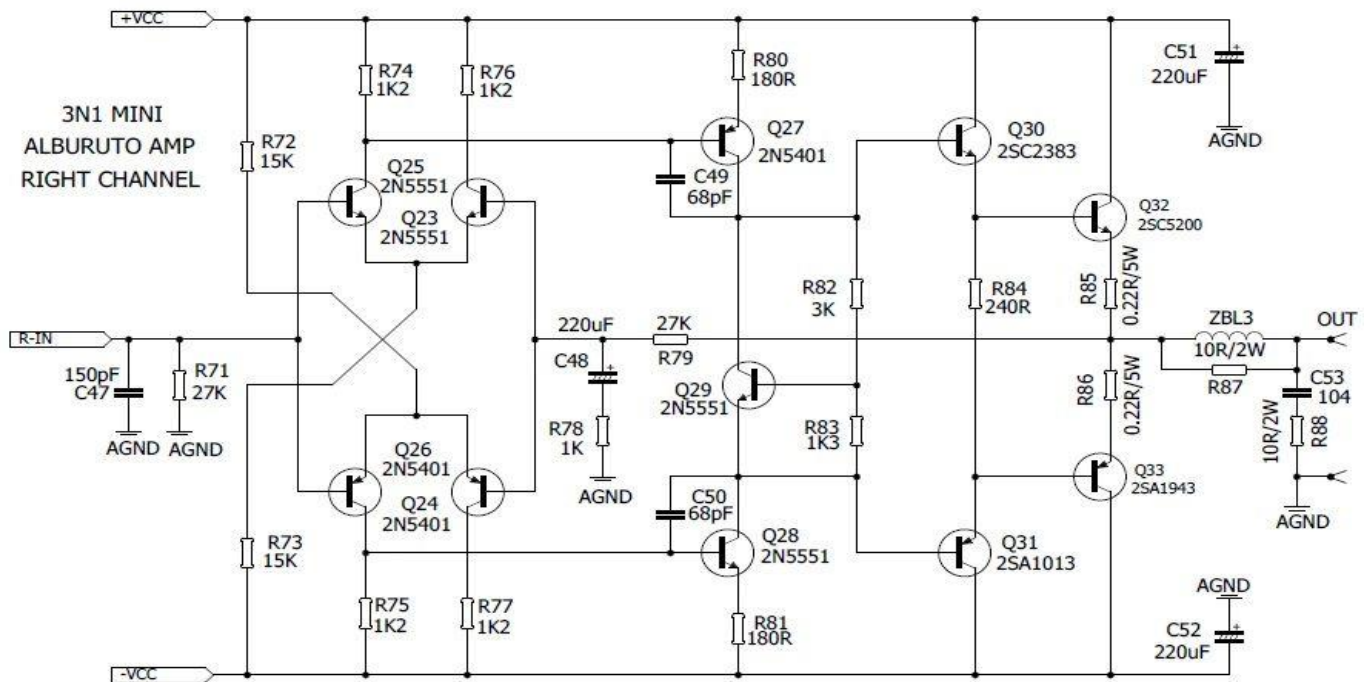
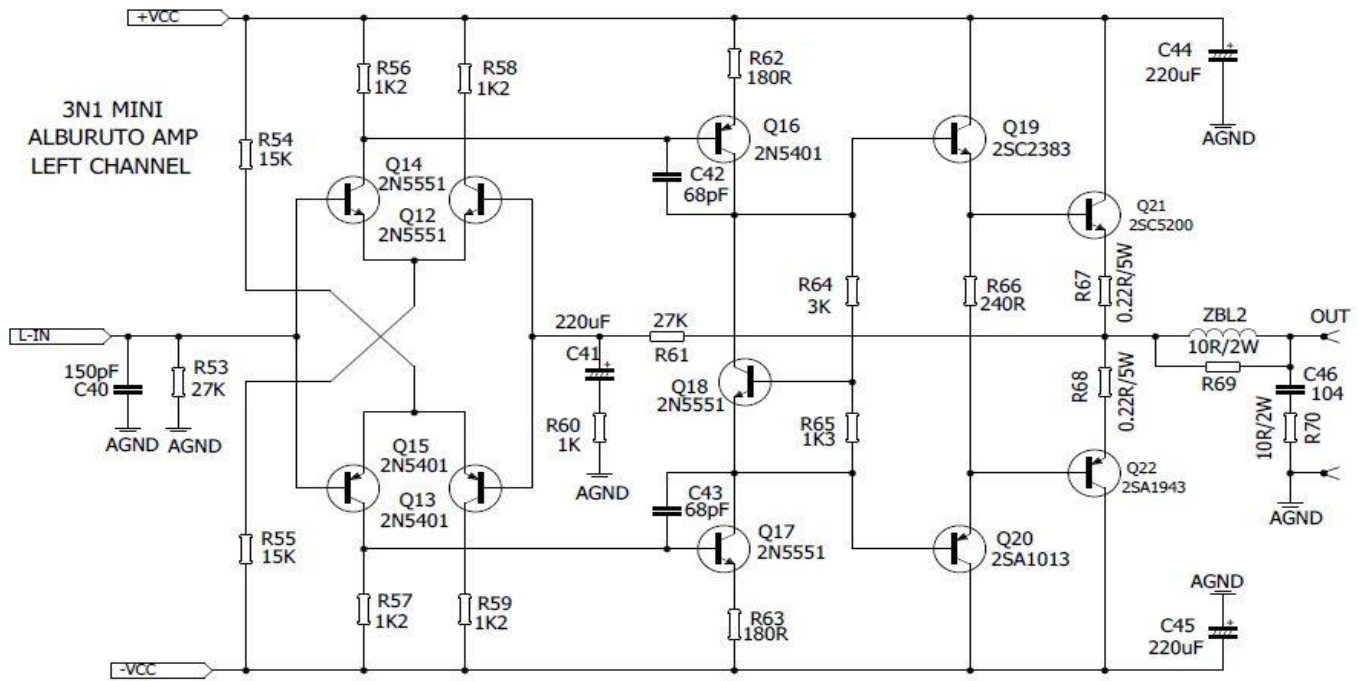
- Voltaje positivo
- Tierra (GND)
- Voltaje negativo
- Señal y otros



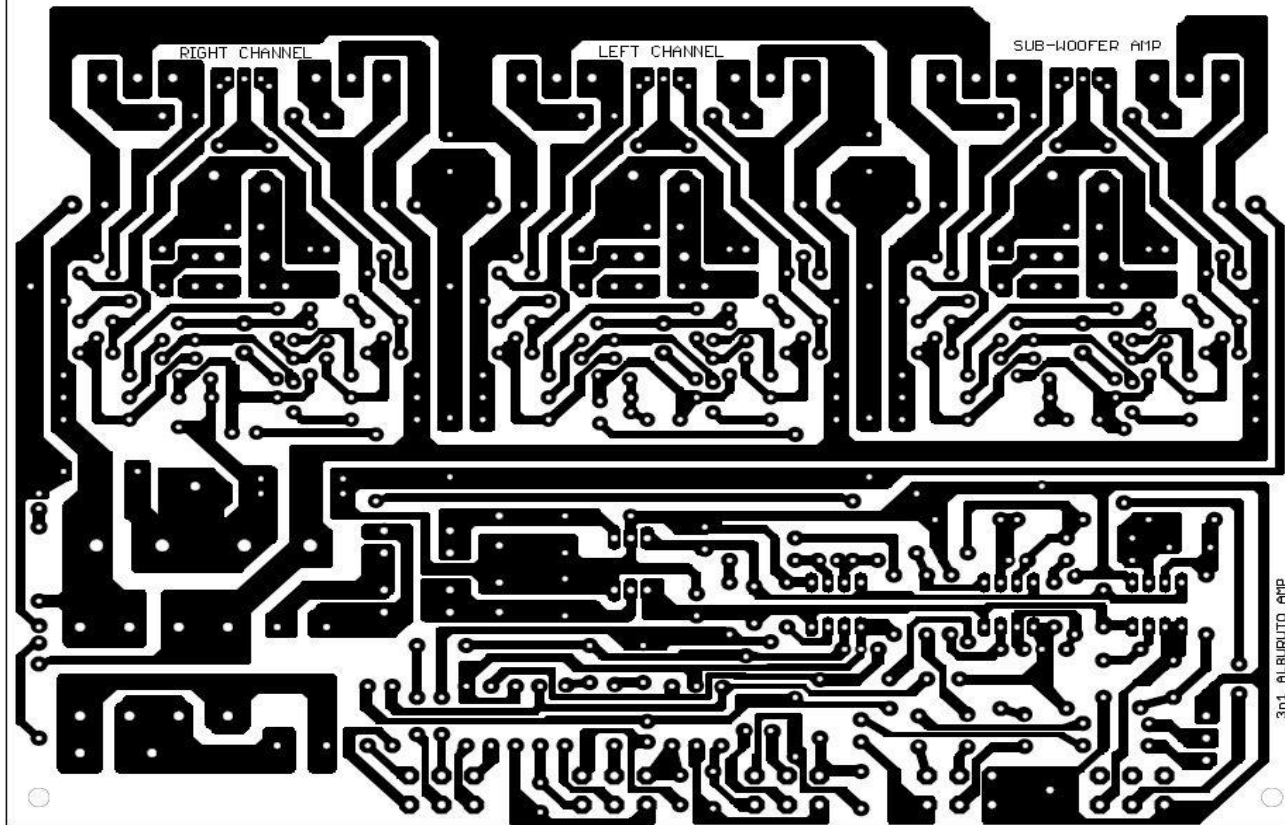
odyo ampli surround 3+1 01-01





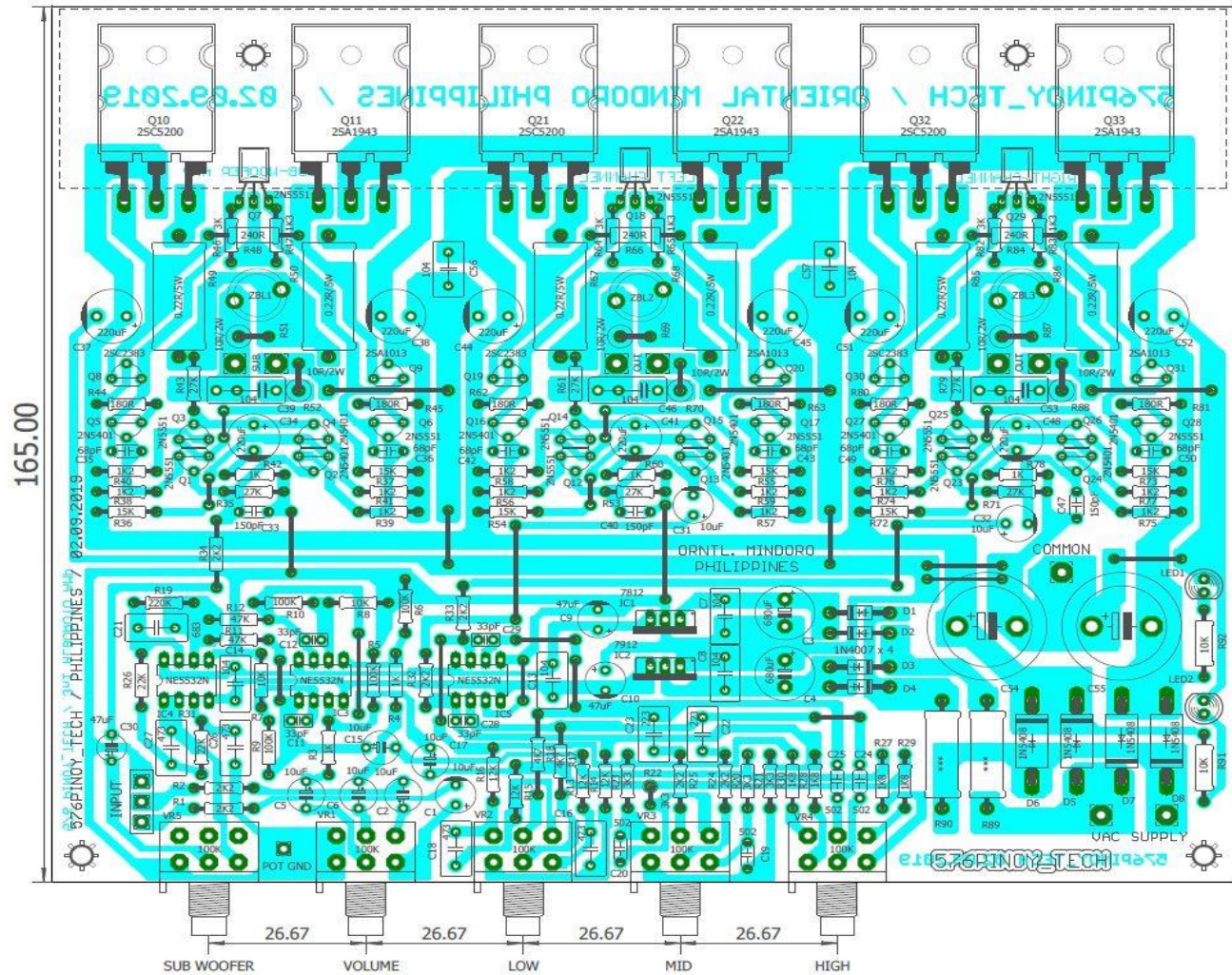


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102.00

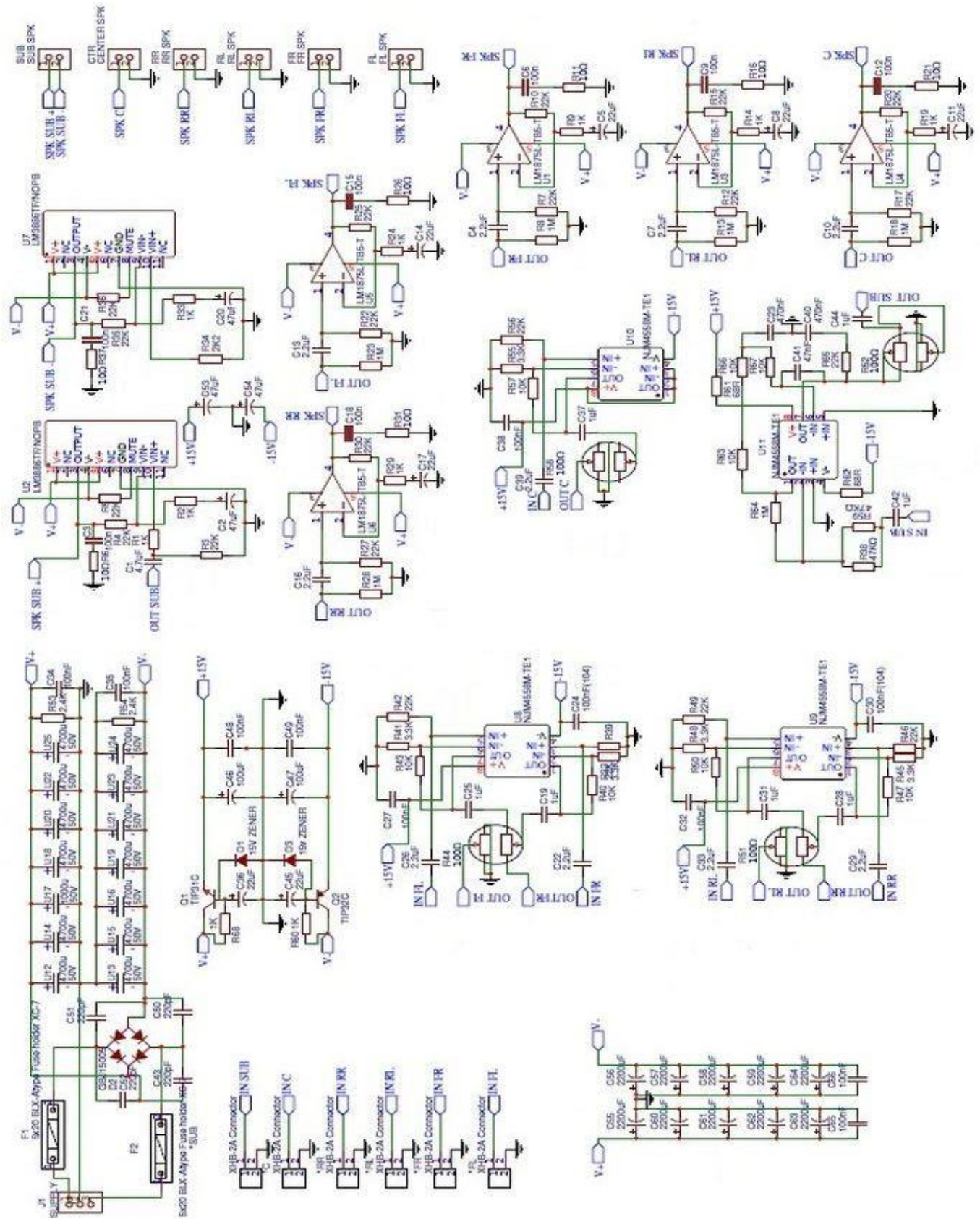
3n1 ALBURTO AMP



3n1 Alburuo Amp (+/-50V) / (page1/2)				
Qty	Value	Description	Parts	Remarks
2	LED	5mm LED	LED1, LED2	
3	150pF/50V	Ceramic Cap	C33, C40, C47	
4	33pF/50V	Ceramic Cap	C11, C12, C28, C29	
6	68pF/50V	Ceramic Cap	C35, C36, C42, C43, C49, C50	
9	104/50V	Mylar Cap	C7, C8, C13, C14, C39, C46, C53, C56, C57	
2	223/50V	Mylar Cap	C22, C23	
4	473/50V	Mylar Cap	C16, C18, C26, C27	
4	502/50V	Mylar Cap	C19, C20, C24, C25	
1	683/50V	Mylar Cap	C21	
2	4700uF/50V	Electrolytic Cap	C54, C55	as high uF
8	10uF/16V	Electrolytic Cap	C1, C2, C5, C6, C15, C17, C31, C32	
3	220uF/50V	Electrolytic Cap	C34, C41, C48	
6	220uF/63V	Electrolytic Cap	C37, C38, C44, C45, C51, C52	
3	47uF/16V	Electrolytic Cap	C9, C10, C30	
2	680uF/35V	Electrolytic Cap	C3, C4	
12	2N5551	NPN Transistor	Q1, Q3, Q6, Q7, Q12, Q14, Q17, Q18, Q23, Q25, Q28, Q29	
3	2SC2383	NPN Transistor	Q8, Q19, Q30	
3	2SC5200	NPN Transistor	Q10, Q21, Q32	
9	2N5401	PNP Transistor	Q2, Q4, Q5, Q13, Q15, Q16, Q24, Q26, Q27	
3	2SA1013	PNP Transistor	Q9, Q20, Q31	
3	2SA1943	PNP Transistor	Q11, Q22, Q33	
3	NE5532N	op-amp	IC3, IC4, IC5	LM4558
3	IC Socket	8pins IC Socket		
1	LM7812	Vreg TO-220	IC1	
1	LM7912	Vreg TO-220	IC2	
4	1N5408	Rectifier Diode	D5, D6, D7, D8	
4	1N4007	Rectifier Diode	D1, D2, D3, D4	
6	180R	Resistor 1/4W	R44, R45, R62, R63, R80, R81	
5	1K	Resistor 1/4W	R3, R4, R42, R60, R78	
12	1K2	Resistor 1/4W	R36, R39, R40, R41, R56, R57, R58, R59, R74, R75, R76, R77	
3	1K3	Resistor 1/4W	R47, R65, R83	
4	1K8	Resistor 1/4W	R27, R28, R29, R30	
7	2K2	Resistor 1/4W	R1, R2, R24, R25, R32, R33, R34	
3	3K	Resistor 1/4W	R46, R64, R82	

3n1 Alburuo Amp (+/-50V) / (page2/2)				
4	3K3	Resistor 1/4W	R20, R21, R22, R23	
2	4K7	Resistor 1/4W	R17, R18	
2	10K	Resistor 1/4W	R7, R8	
4	12K	Resistor 1/4W	R13, R14, R15, R16	
6	15K	Resistor 1/4W	R36, R37, R54, R55, R72, R73	
2	22K	Resistor 1/4W	R26, R31	
6	27K	Resistor 1/4W	R35, R43, R53, R61, R71, R79	
2	47K	Resistor 1/4W	R11, R12	
4	100K	Resistor 1/4W	R5, R6, R9, R10	
1	220K	Resistor 1/4W	R19	
2	10K	Resistor 1/2W	R91, R92	
3	240R	Resistor 1/2W	R48, R66, R84	
6	10R/2W	Resistor 2W	R51, R52, R69, R70, R87, R88	
2	330R	Resistor 3W	(330 OHMS INITIAL) R89, R90	to compute
6	0.22R/5W	Resistor 5W	R49, R50, R67, R68, R85, R86	
5	100K	Dual Pot Mini	VR1, VR2, VR3, VR4, VR5	
6		Mica Insulator	TO-264 Size	
1		PCB 6.5 x 8 INCHES	PCB from Newport Electronics	
5		Knob	Small Size Knob	
3		Custom Coil	ZBL1, ZBL2, ZBL3	
1		L-Type Alum Heatsink	9 Inches from Aluminum Power	

odyo ampli surround 5+1 01-01



MINI GAINCLONE
HOMETHEATER 5.1

Indah pada
waktunya

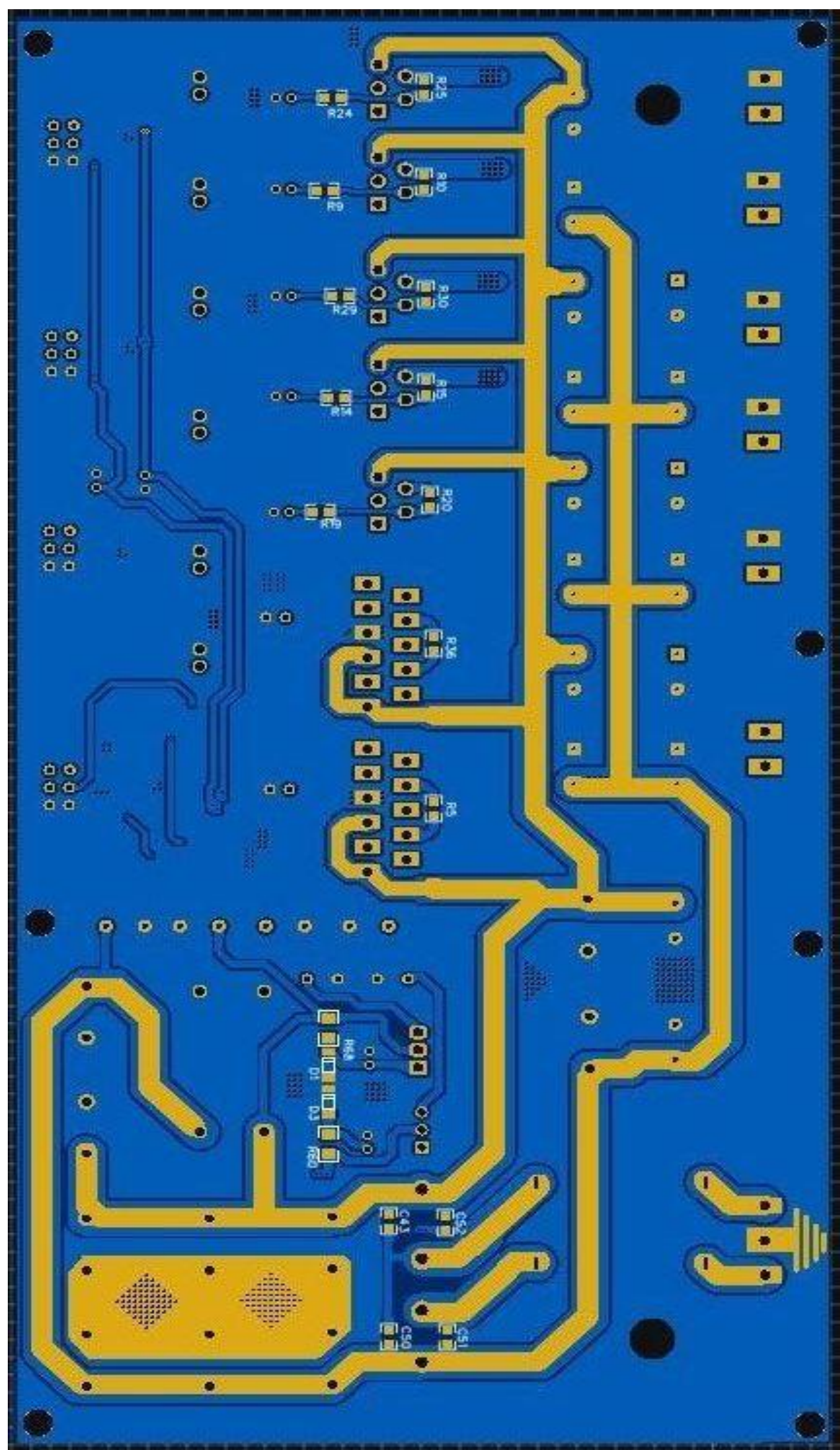
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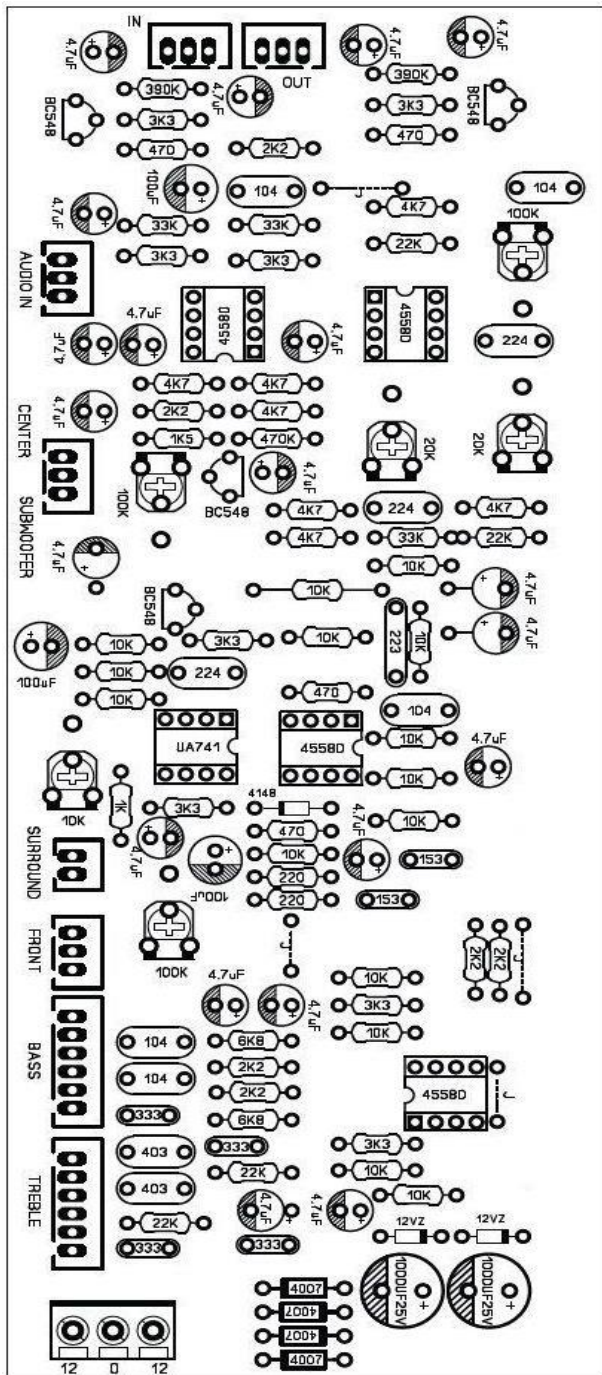
CENTER

REAR

FRONT

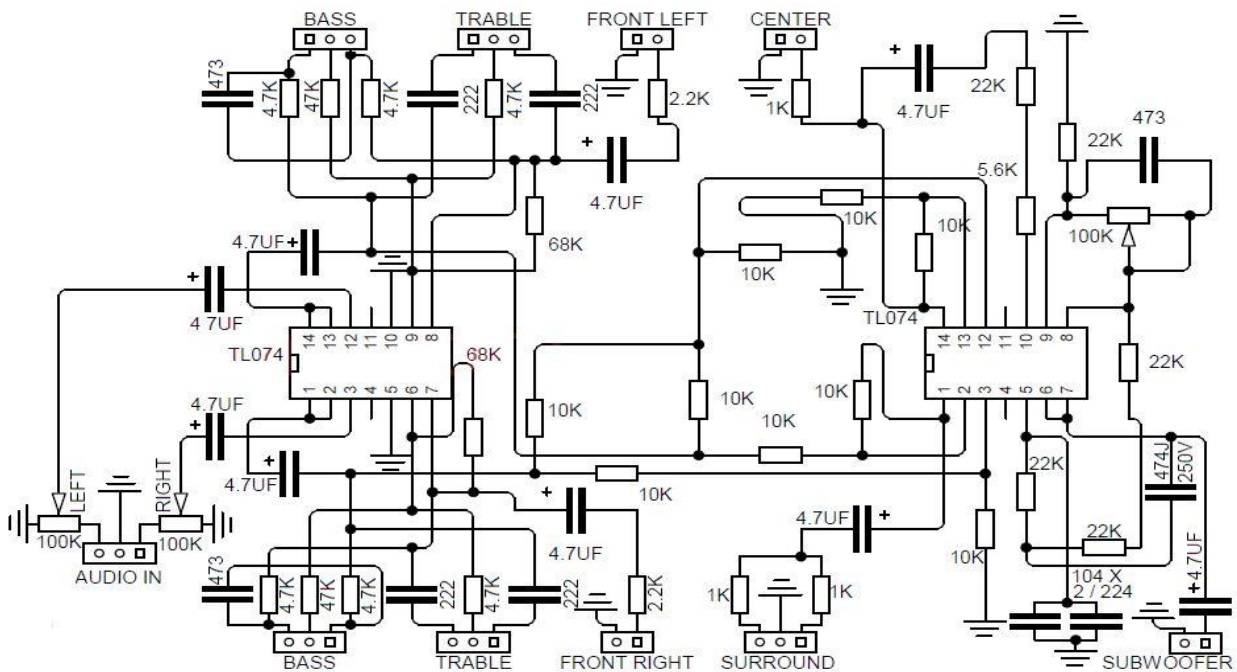
www.elcircuit.com

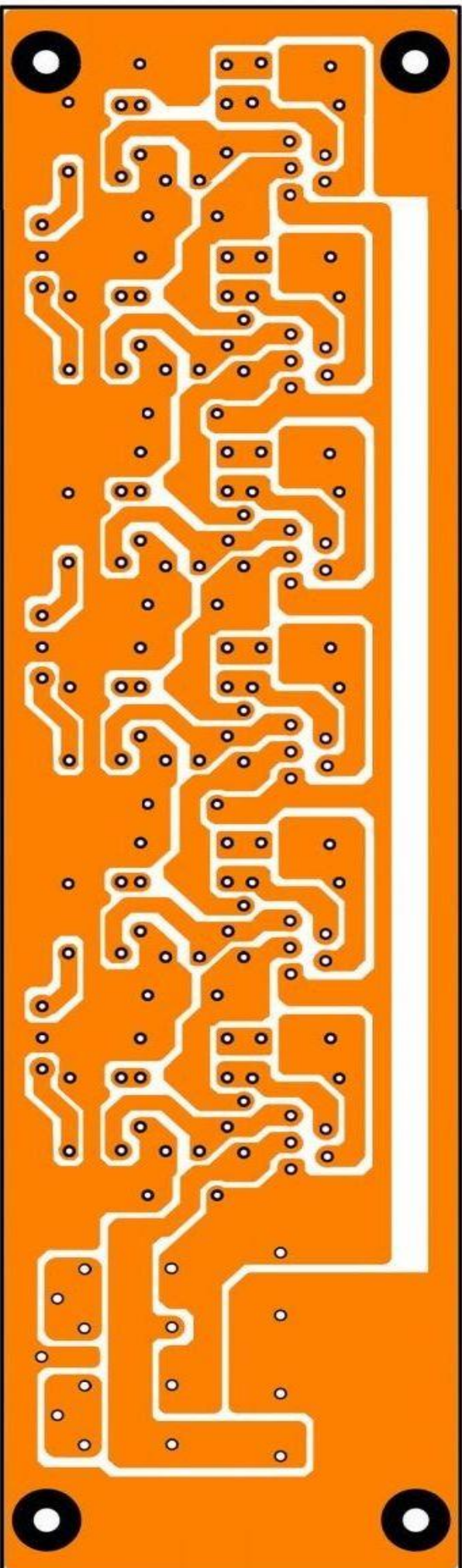
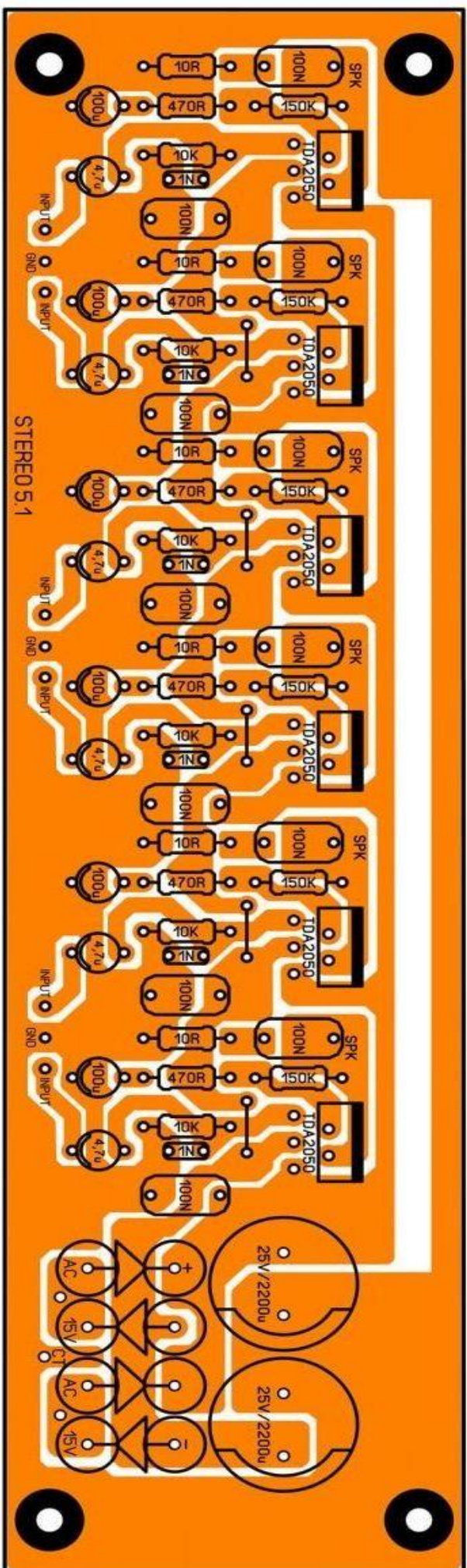


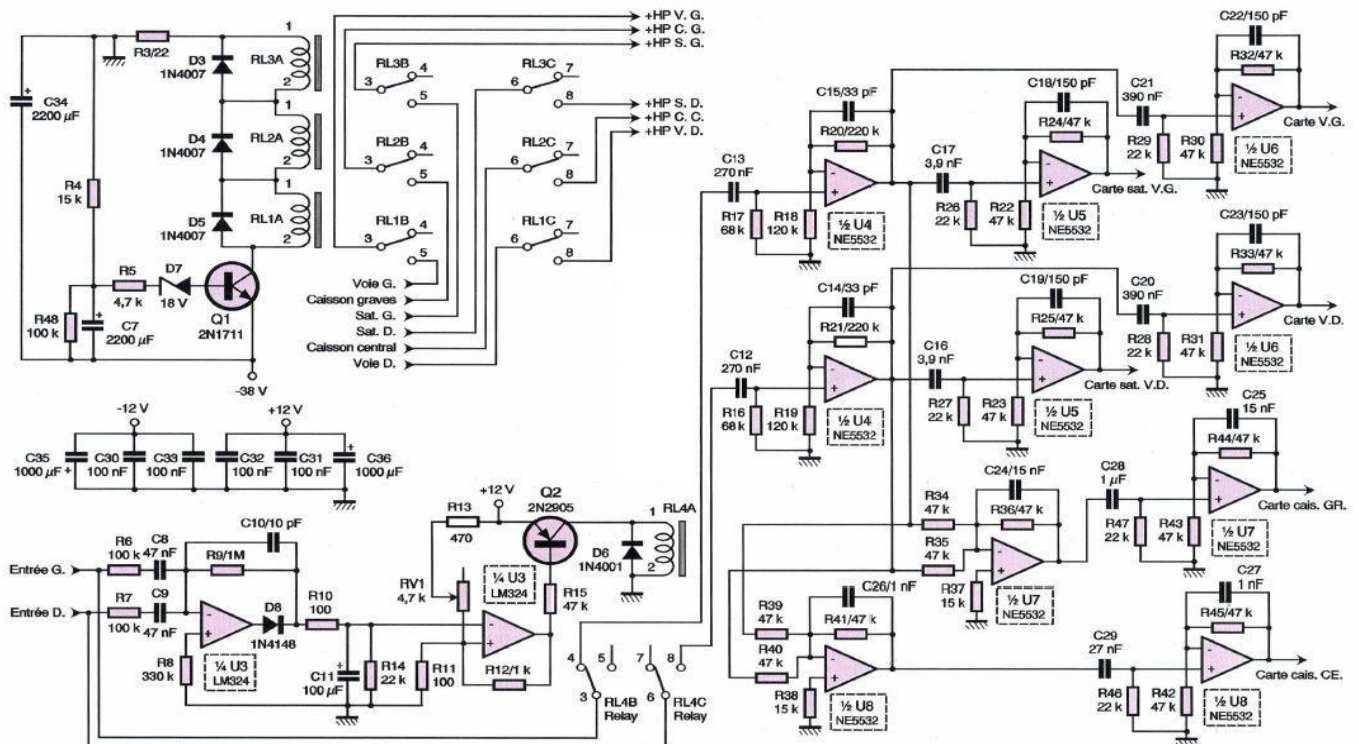
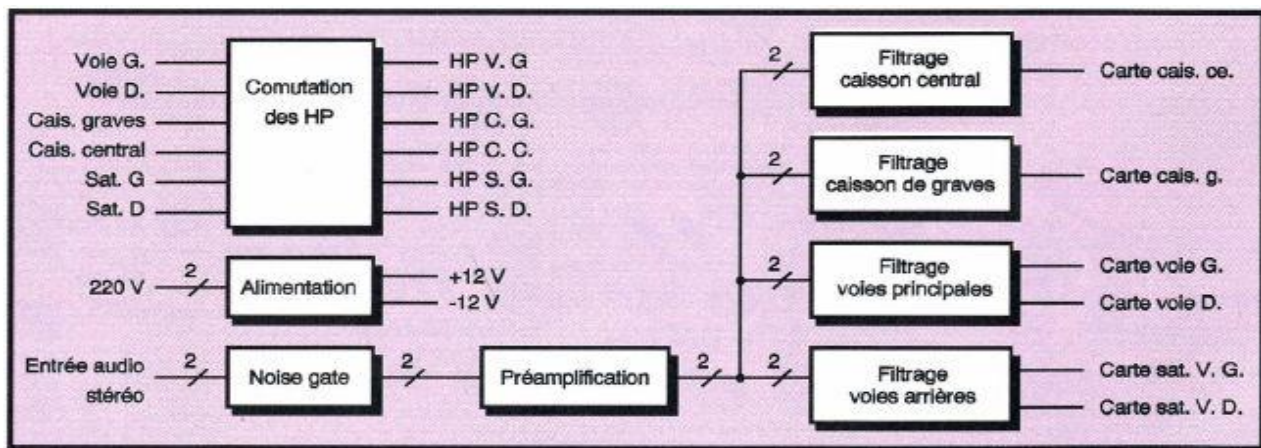
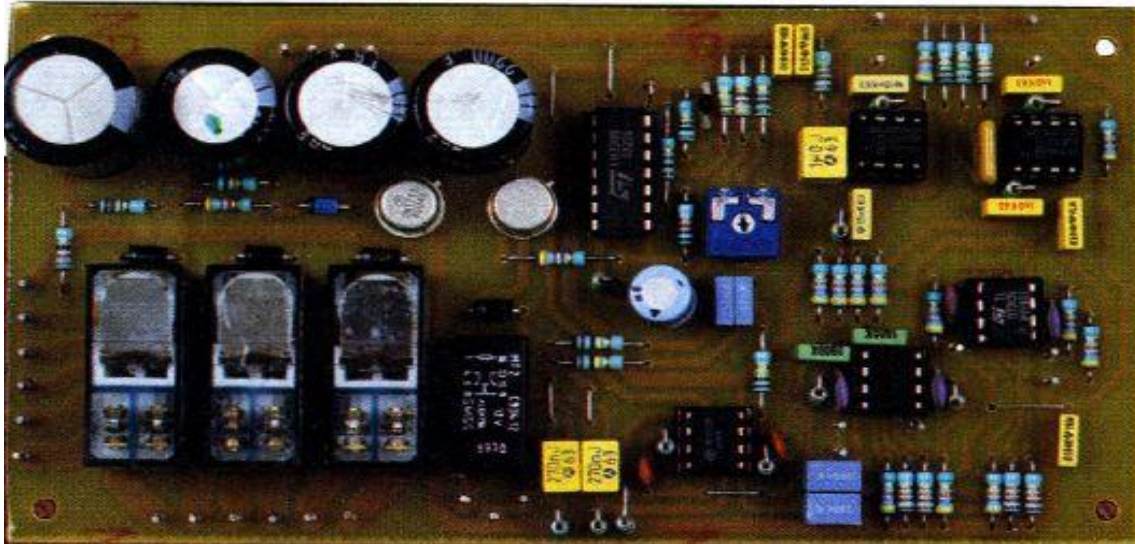


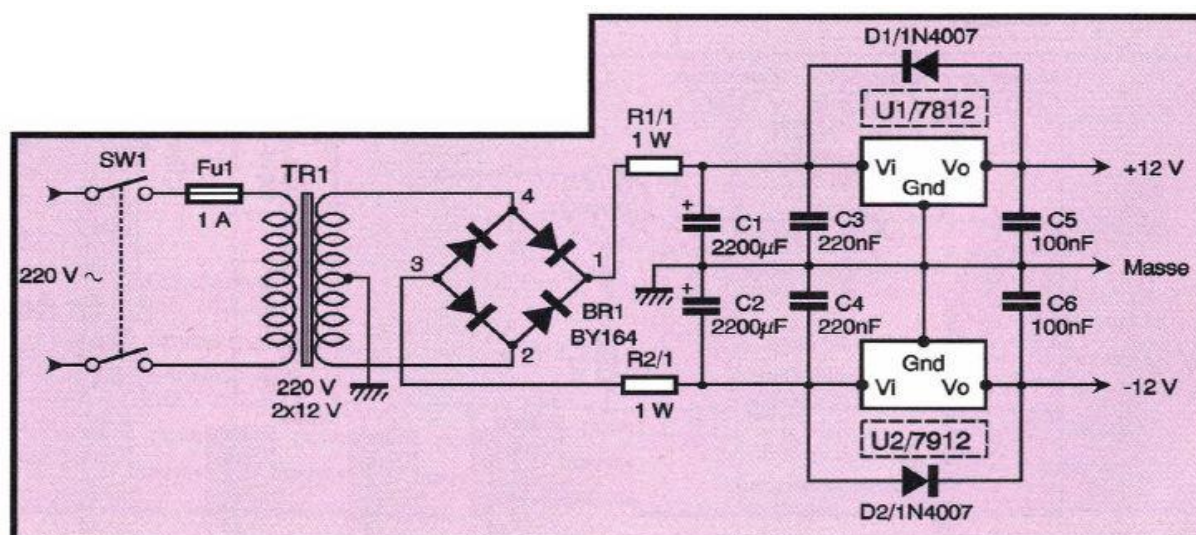
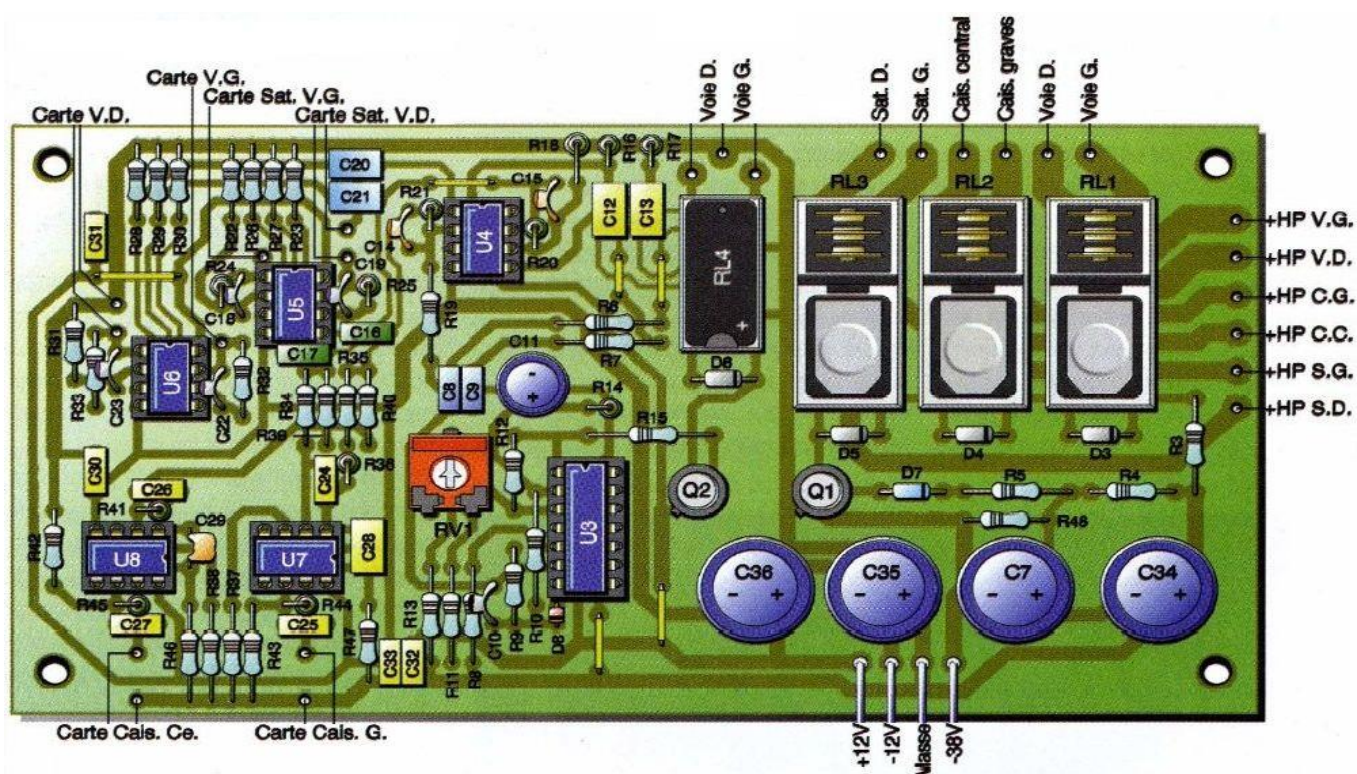
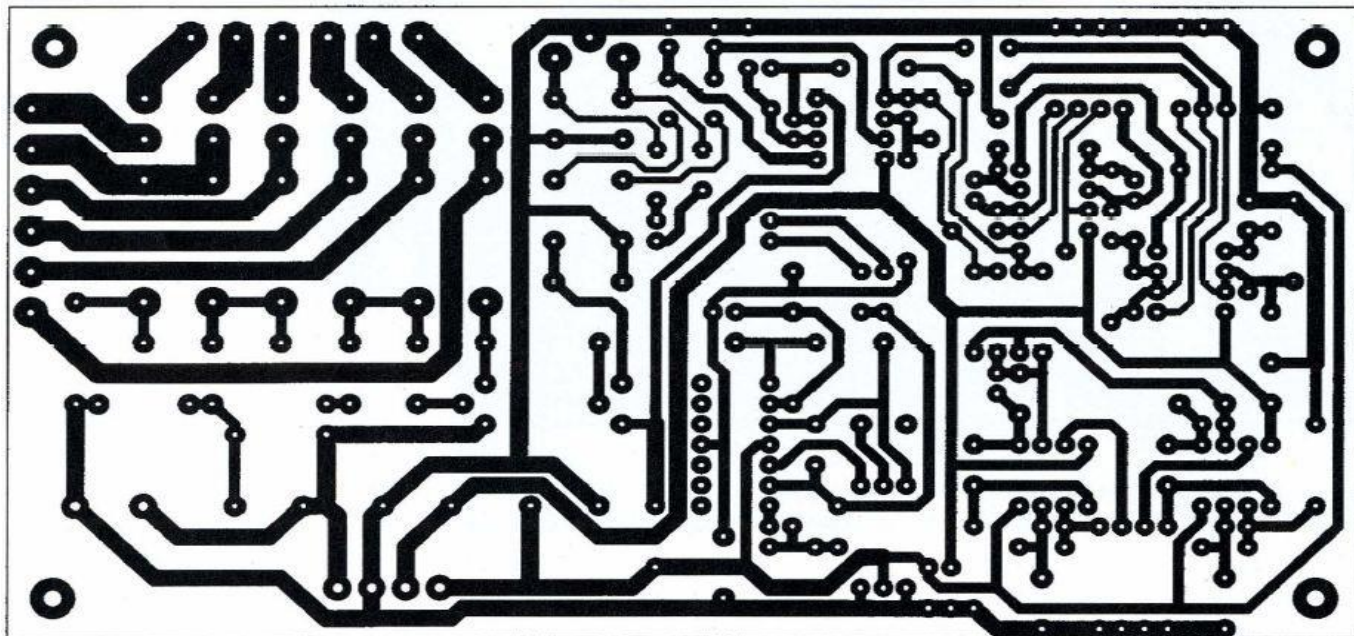
odyo ampli surround 5+1 02-01 ton kontrol

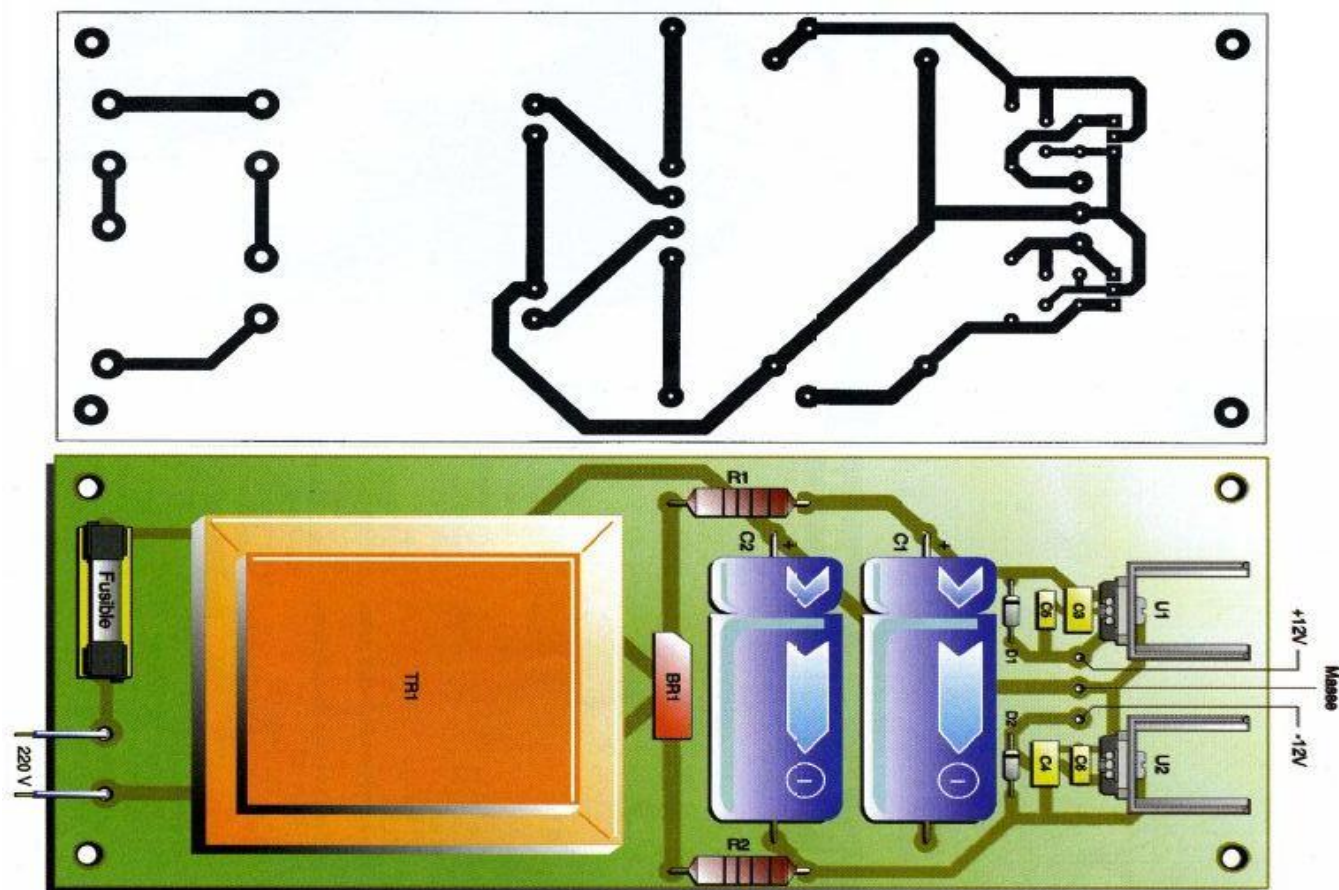
U12, U13, U14, U15, U16, U18, U19, U20, U21, U22, U23, U24, U25	4700uF/50V	capacitor 1000uF/50V
U17	1000uF/50V	capacitor 1000uF/50V
R1, R2, R9, R14, R19, R24, R29, R33	1K	RC0805DR-071KL
R3, R4, R5, R7, R10, R12, R15, R17, R20, R22, R25, R27, R30, R35, R36, R39, R42, R46, R49, R56	22K	AC0805FR-0722KL
R6, R11, R16, R21, R26, R31, R37	10K	25121WJ0100T4E
R8, R13, R18, R23, R28	1M	AC0805FR-0722KL
R34	2K2	AC0805FR-0722KL
R32, R41, R45, R48, R55	3.3K	RC0805JR-073K3L
R40, R43, R47, R50, R57	10K	AC0805FR-0710KL
R44, R51, R58, R52	100K	Precision potentiometer 100K
R38, R59	47KQ	0805W8F4702T5E
R53, R54	2.4K	MFR025F2401A10
R60, R68	1K	WR12X102JTL
R61, R62	68R	0805W8F4702T5E
R63, R66, R67	10K	0805W8F4702T5E
R64	1M	0805W8F4702T5E
R65	22K	0805W8F4702T5E
*SUB, *C, *RR, *RL, *FR, *FL	XHB-2A Connector	XHB-2A Connector
F1, F2	5x20 BLX-Atype Fuse holder XC-7	5x20 BLX-Atype Fuse holder XC-7
FL TERMINAL	FR SPK	?
FL TERMINAL	FL SPK	?
RL TERMINAL	RL SPK	?
RR TERMINAL	RR SPK	?
CTR TERMINAL	CENTER SPK	?
SUB TERMINAL	SUB SPK	?
J1 TERMINAL	SUPPLY	?







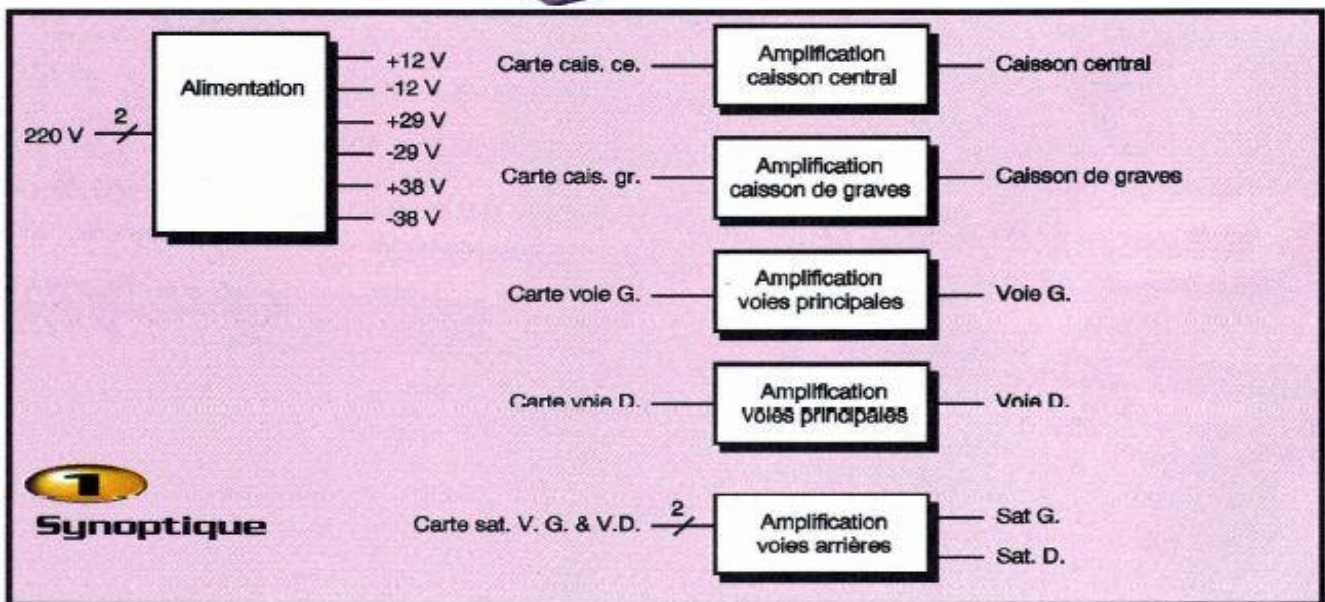
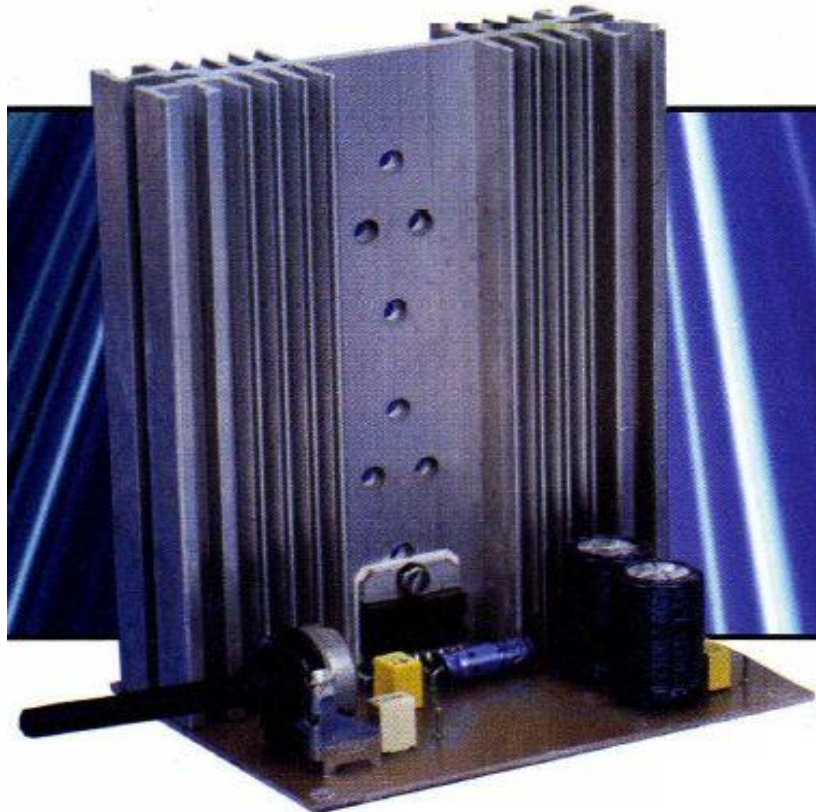




Résistances couche métal 1/2W 5% (sauf indication contraire)

R_1, R_2 : 1 Ω 1W 5%
 R_3 : 22 Ω
 R_4, R_{37}, R_{38} : 15 k Ω
 R_5 : 4,7 k Ω
 R_6, R_7, R_{48} : 100 k Ω
 R_8 : 330 k Ω
 R_9 : 1 M Ω
 R_{10}, R_{11} : 100 Ω
 R_{12} : 1 k Ω
 R_{13} : 470 Ω
 R_{14}, R_{26} à R_{29}, R_{46}, R_{47} : 22 k Ω
 R_{15}, R_{22} à R_{25}, R_{30} à R_{36}, R_{39} à R_{45} : 47 k Ω
 R_{16}, R_{17} : 68 k Ω
 R_{18}, R_{19} : 120 k Ω
 R_{20}, R_{21} : 220 k Ω
AJ₁ : ajustable carbone horizontal mono-tour
 C_1, C_2 : 2200 μ F/25V axiaux électrolytiques
 C_3, C_4 : 220 nF/63V LCC
 C_5, C_6, C_{30} à C_{33} : 100 nF/63V LCC
 C_7, C_{34} : 2200 μ F/40V radiaux électrolytiques
 C_8, C_9 : 47 nF/63V LCC
 C_{10} : 10 pF/50V céramique
 C_{11} : 100 μ F/16V radial électrolytique
 C_{12}, C_{13} : 270 nF/63V LCC
 C_{14}, C_{15} : 33 pF/50V céramique
 C_{16}, C_{17} : 3,9 nF/63V LCC
 $C_{18}, C_{19}, C_{22}, C_{23}$: 150 pF/50V céramique
 C_{20}, C_{21} : 390 nF/63V LCC
 C_{24}, C_{25} : 15 nF/63V LCC

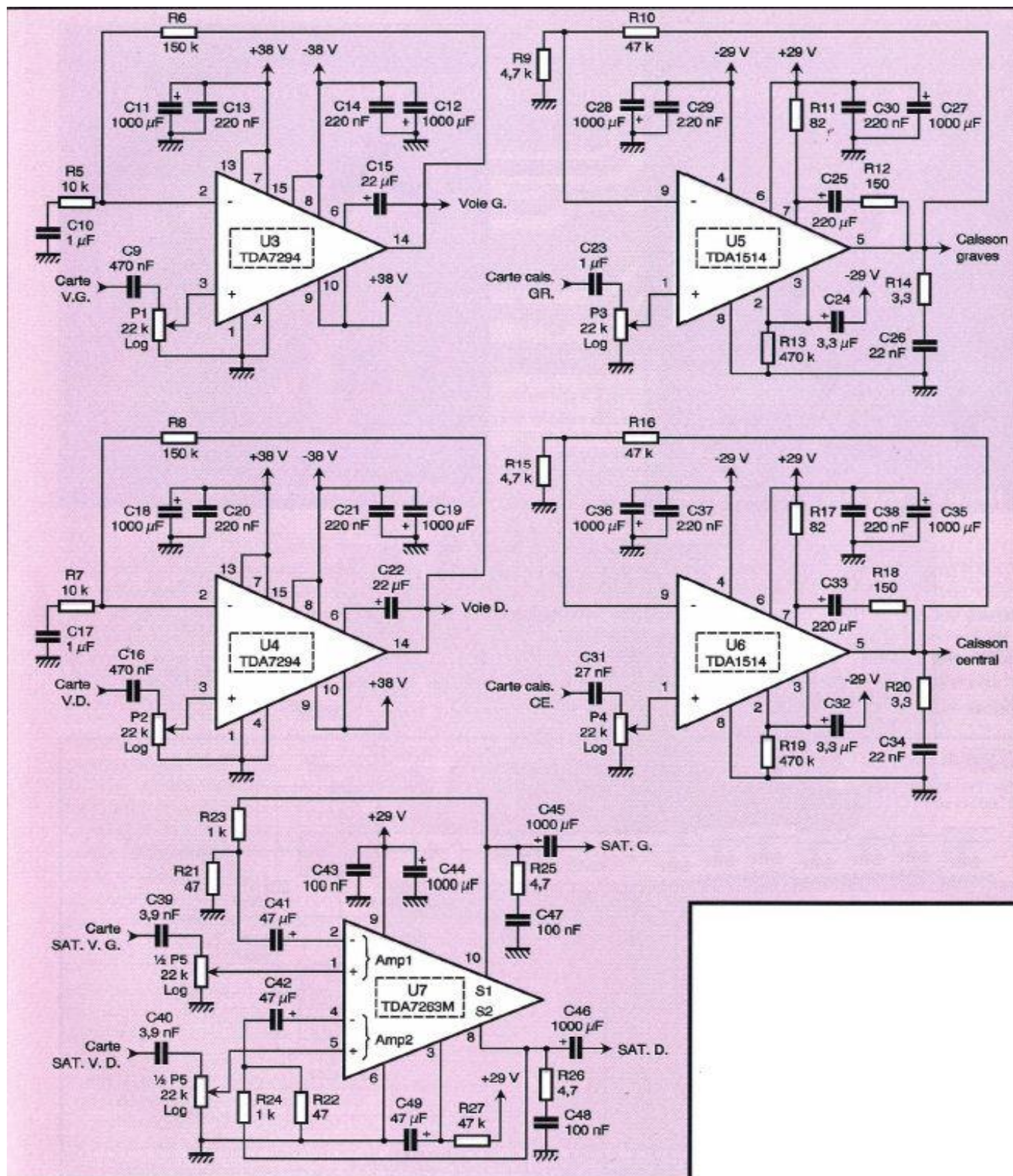
C_{26}, C_{27} : 1 nF/63V LCC
 C_{28} : 1 μ F/63V LCC
 C_{29} : 27 nF/63V LCC
 C_{35}, C_{36} : 1000 μ F à 2200 μ F/16V électrolytiques
 D_1 à D_6 : diodes silicium 1N4001 ou 1N4007
 D_7 : diode zéner 18V 1,3W
 D_8 : diode silicium 1N4148
BR₁ : pont de diodes BY164
 Q_1 : transistor NPN 2N1711
 Q_2 : transistor PNP 2N2905
 U_1 : régulateur 7812
 U_2 : régulateur 7912
 U_3 : LM324
 U_4 à U_8 : NE5532 ou TL072 ou OP285 (voir texte)
SW₁ : interrupteur secteur bipolaire 220V/2A
TR₁ : transformateur 2x110V/2x12V/10VA
 (implantation prévue pour TES663 de chez SCHAFFNER))
Fu₁ : fusible temporisé 1A
 1 support fusible
 2 radiateurs pour boîtier TO220
 2 kits d'isolation pour boîtier TO220
 3 relais format Europe 12V/2RT (2x220V/5A)
 1 relais miniature 12V/2RT
 6 straps sur la carte préampli
 5 supports circuit intégré 8 broches
 1 support circuit intégré 14 broches
 2 circuits imprimés en époxy simple face

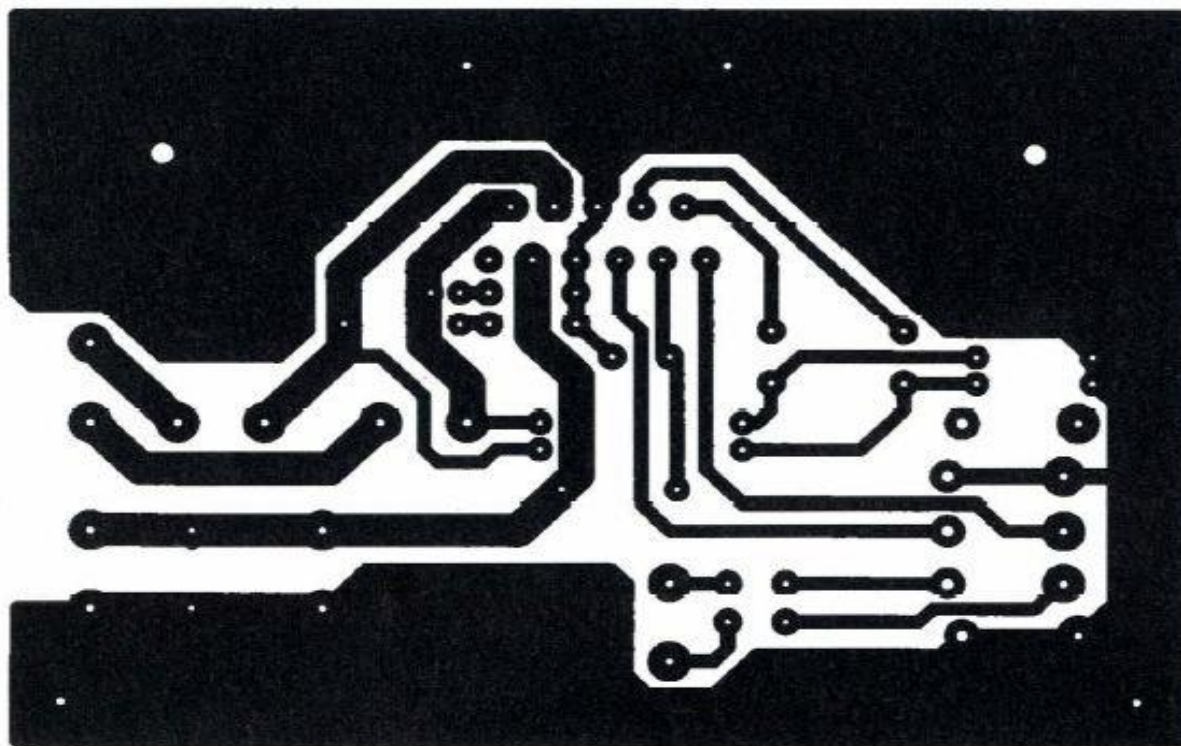
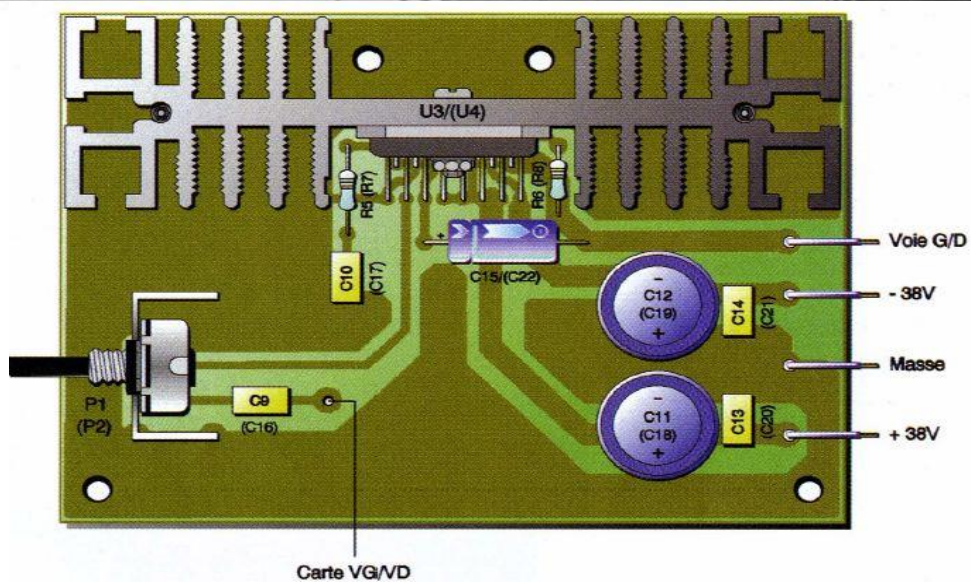
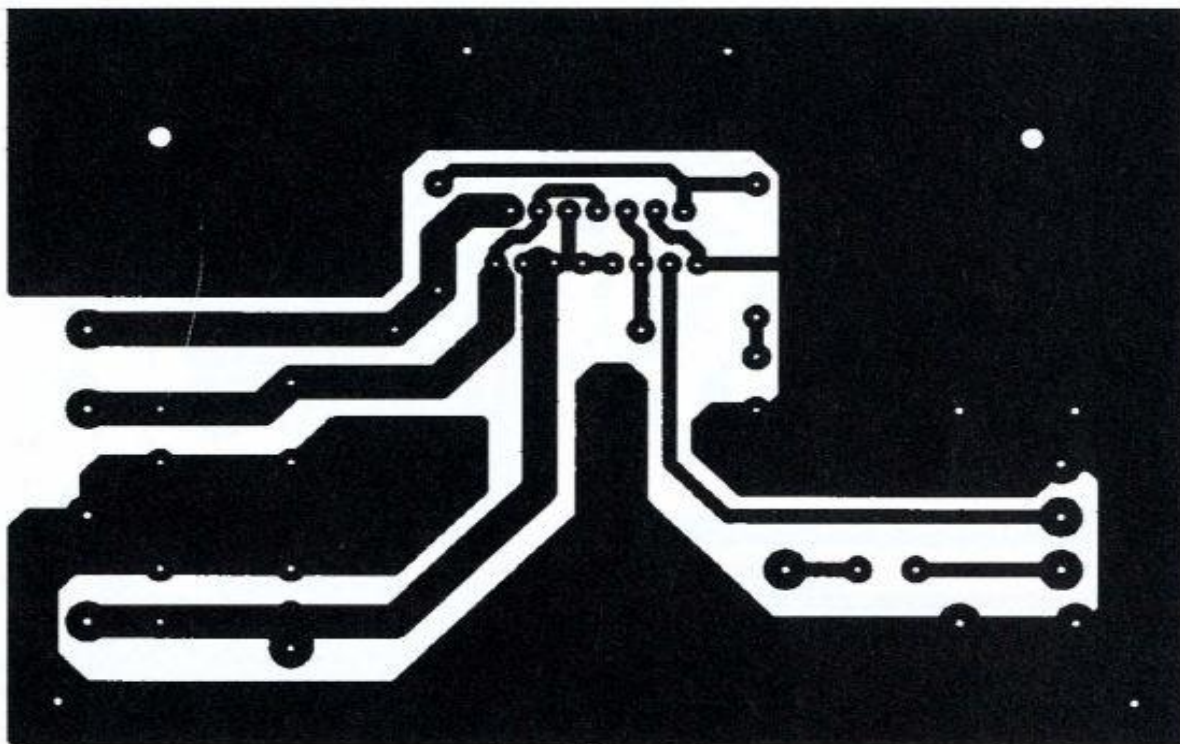


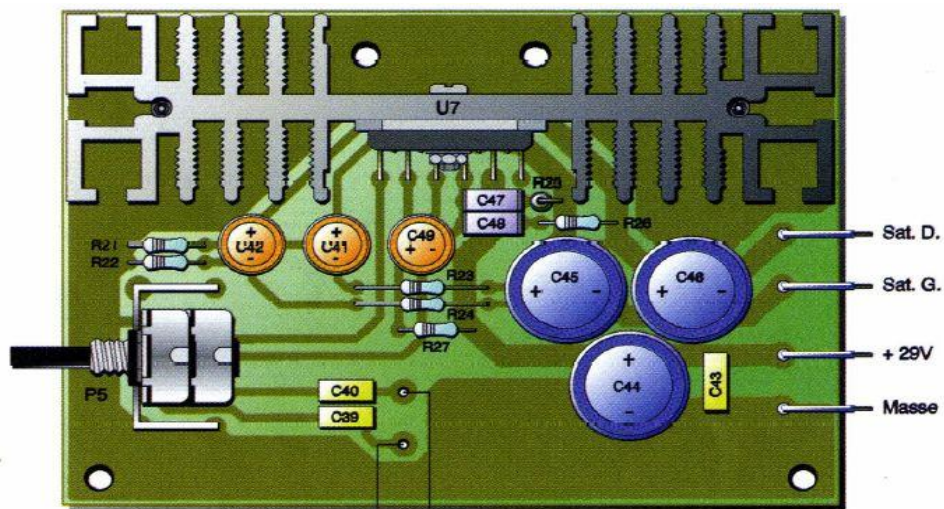
R_1 à R_4 : 0,1 Ω 6W
 R_5, R_7 : 10 k Ω 1/2W 5%
 R_6, R_8 : 150 k Ω 1/2W 5%
 R_9, R_{15} : 4,7 k Ω 1/2W 5%
 R_{10}, R_{16}, R_{27} : 47 k Ω 1/2W 5%
 R_{11}, R_{17} : 82 Ω 1/2W 5%
 R_{12}, R_{18} : 150 Ω 1/2W 5%
 R_{13}, R_{19} : 470 k Ω 1/2W 5%
 R_{14}, R_{20} : 3,3 Ω 1/2W 5%
 R_{21}, R_{22} : 47 Ω 1/2W 5%
 R_{23}, R_{24} : 1 k Ω 1/2W 5%
 R_{25}, R_{26} : 4,7 Ω 1/2W 5%
 P_1 à P_4 : potentiomètres 22 k Ω Log carbone axe 6mm
 P_5 : potentiomètre stéréo 22 k Ω Log carbone axe 6mm
 C_1, C_2 : 4700 μ F/40V électrolytique axial
 C_3, C_4 : 10000 μ F/40V électrolytique axial
 C_5, C_6 : 330 nF/63V LCC
 $C_7, C_8, C_{43}, C_{47}, C_{48}$: 100 nF/63V LCC
 C_9, C_{18} : 470 nF/63V LCC

C_{10}, C_{17}, C_{23} : 1 μ F/63V LCC
 $C_{11}, C_{12}, C_{18}, C_{19}, C_{27}, C_{28}, C_{35}, C_{36}, C_{44}$ à C_{46} : 1000 μ F/40V électrolytique radial
 $C_{13}, C_{14}, C_{20}, C_{21}, C_{29}, C_{30}, C_{37}, C_{38}$: 220 nF/63V LCC
 C_{15}, C_{22} : 22 μ F/40V électrolytique axial
 C_{24}, C_{32} : 3.3 μ F/35V électrolytique radial
 C_{25}, C_{33} : 220 μ F/35V électrolytique radial
 C_{26}, C_{34} : 22 nF/63V LCC
 C_{31} : 27 nF/63V LCC
 C_{39}, C_{40} : 3.9 nF/63V LCC
 C_{41}, C_{42}, C_{49} : 47 μ F/35V électrolytique radial
 U_1 : LM7812
 U_2 : LM7912
 U_3, U_4 : TDA7294V
 U_5, U_6 : TDA1514
 U_7 : TDA7263M
 D_1, D_2 : diodes zéner 7,5V/1,3W
 D_3, D_4 : 1N4007
 BR_1, BR_2 : FB2502L (pont carré 200V/25A)

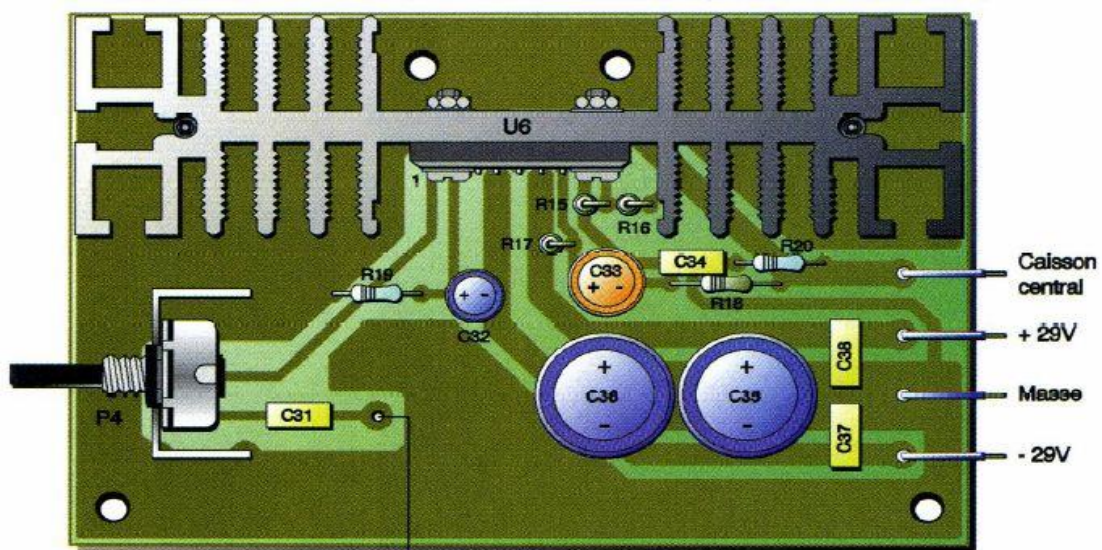
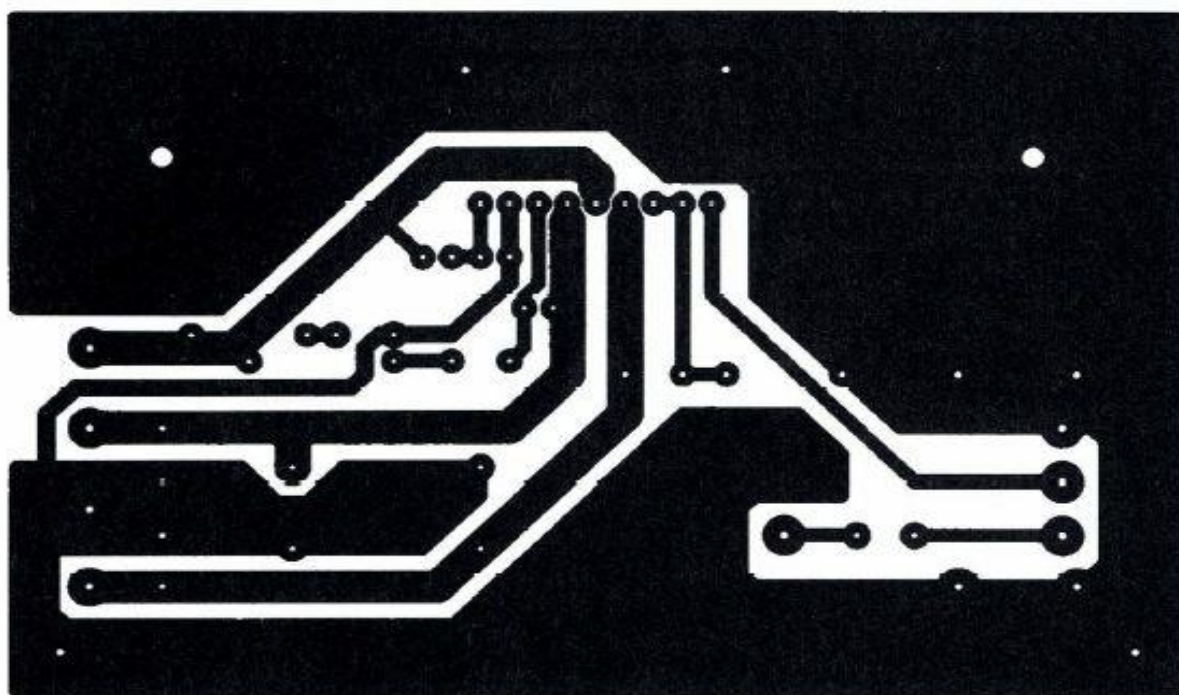
SW_1 : interrupteur secteur bipolaire 220V 4A
 FU_1 : fusible 3A temporisé
 TR_1 : transformateur 230V/7V 4A/2x21V/8A/7V/4A (voir texte)
ou transformateur 230V/2x21V/160 VA + transformateur 230V/2x28V/225VA
Support fusible
5 radiateurs type S53
5 kits d'isolation pour boîtier Multiwatt
2 radiateurs pour boîtier T0220 type ML26
2 kits d'isolation pour boîtier T0220
2 radiateurs pour ponts de diodes (voir texte)
5 supports pour potentiomètres (disponibles chez HBN)
6 circuits imprimés époxy simple face



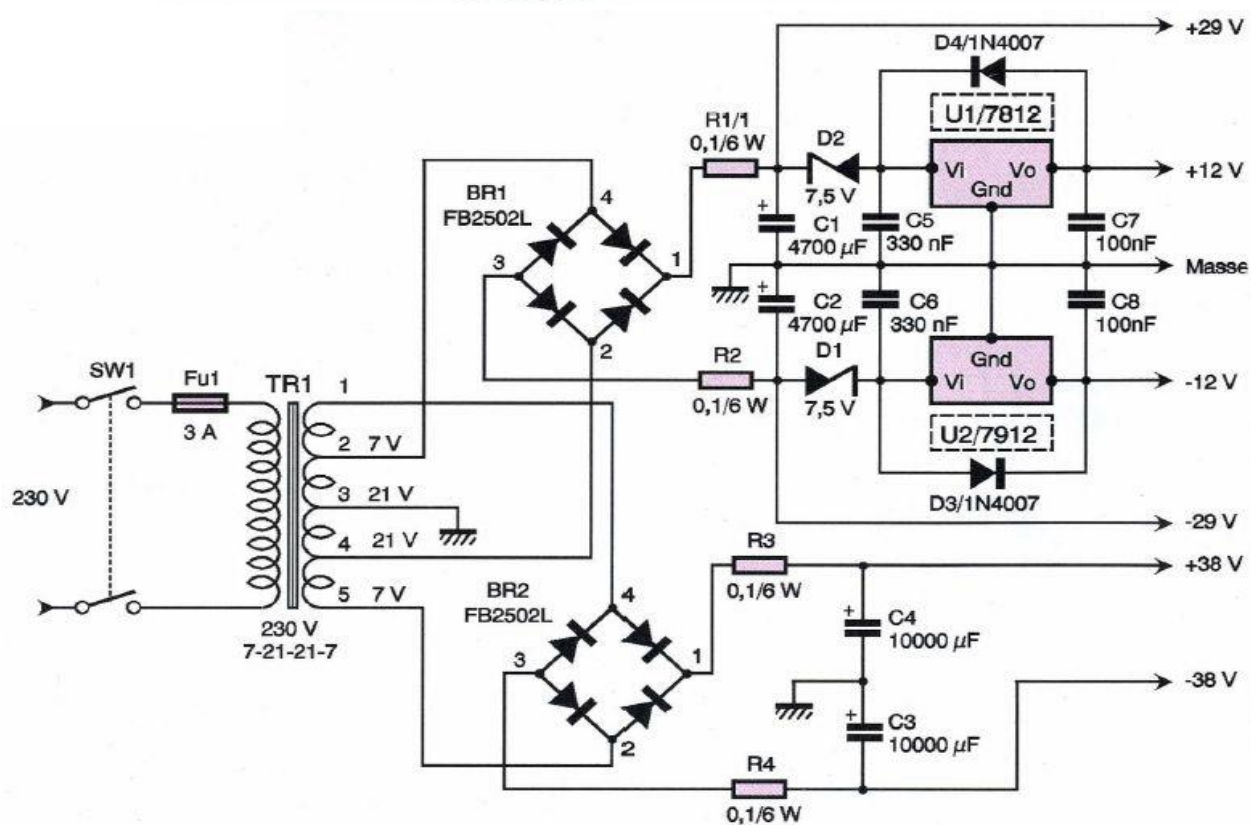
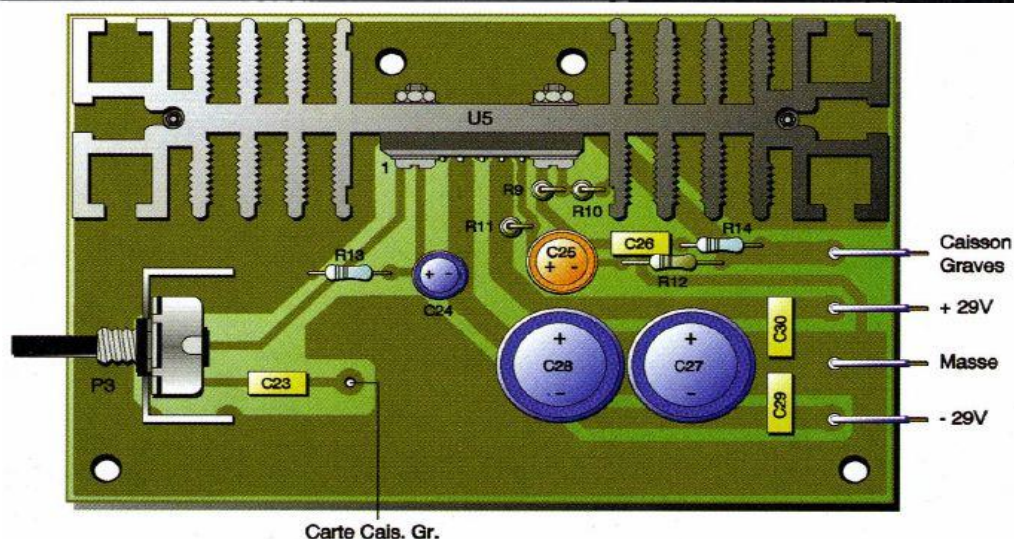
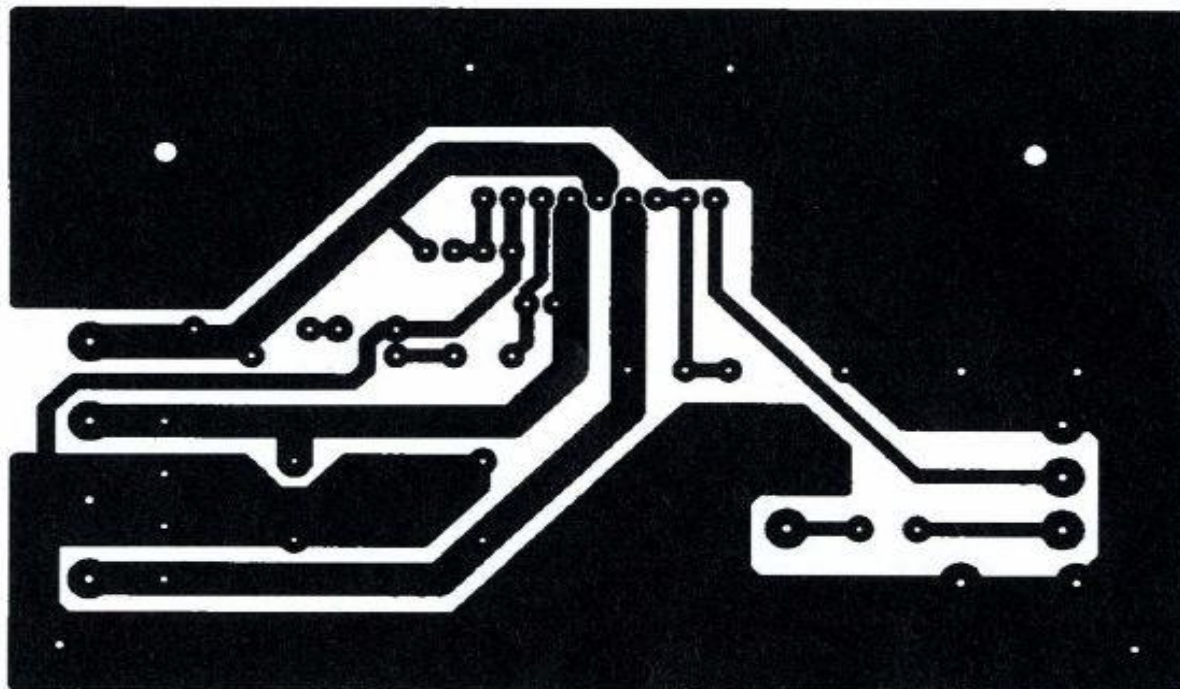


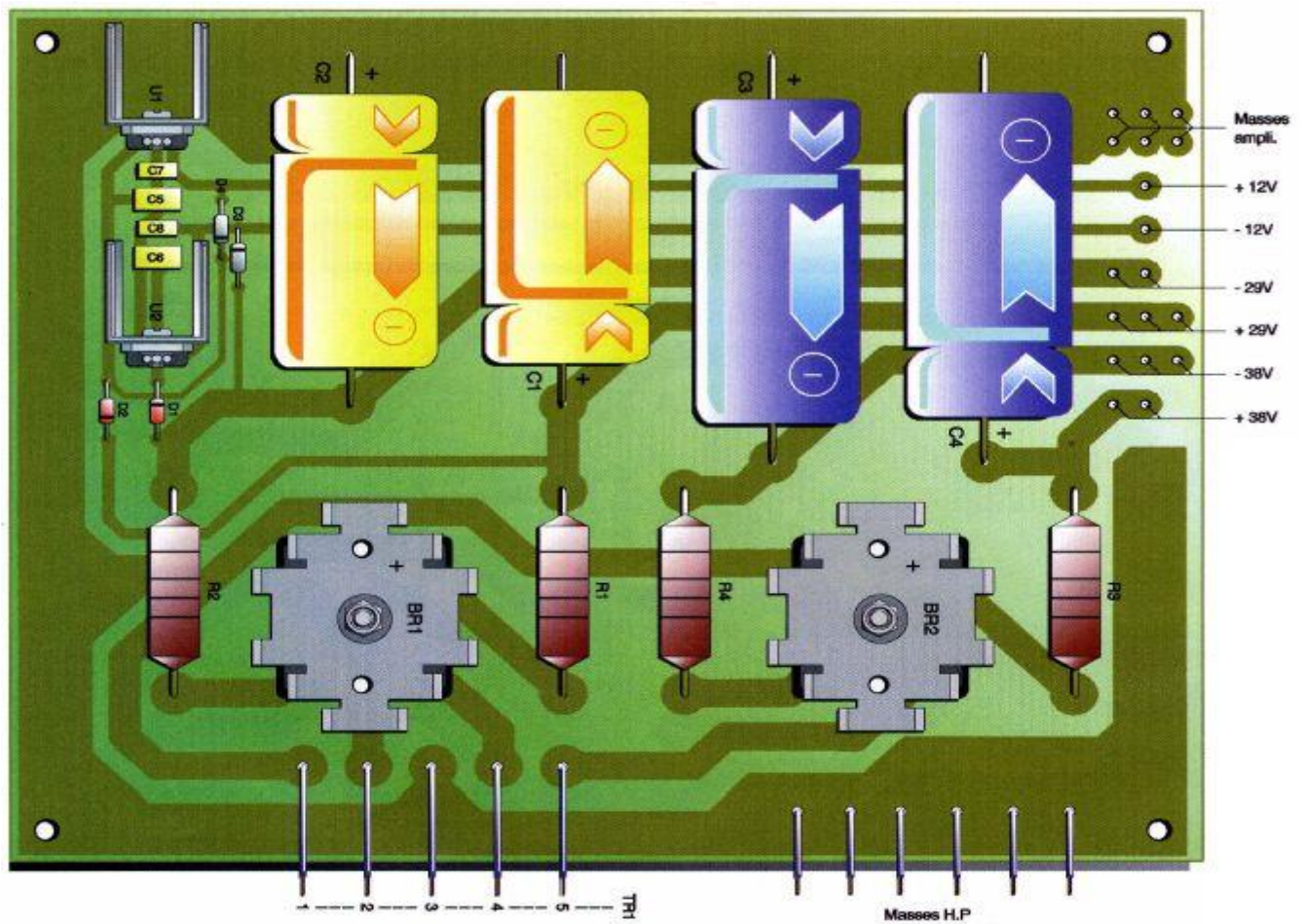
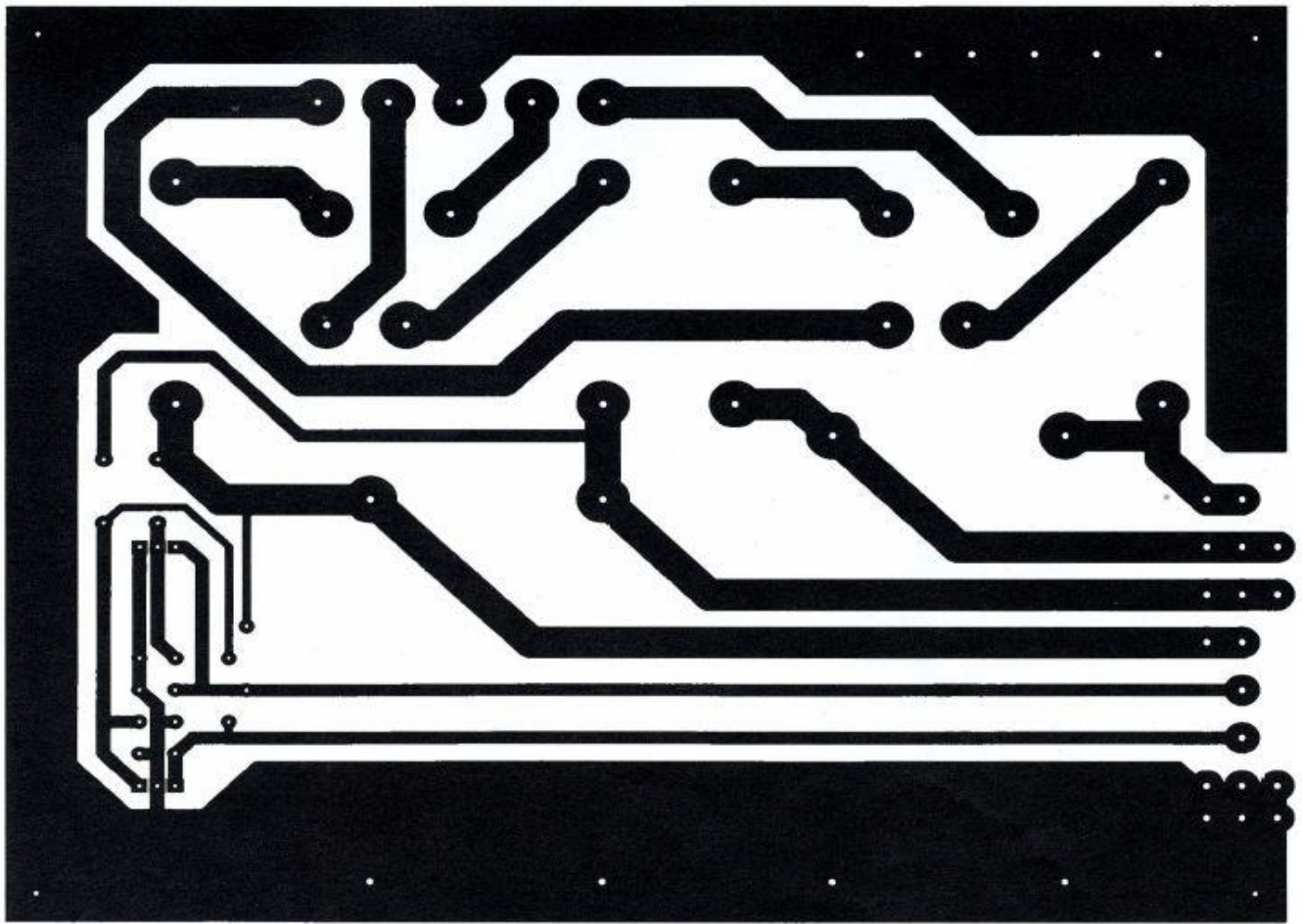


Carte Sat. V.D.

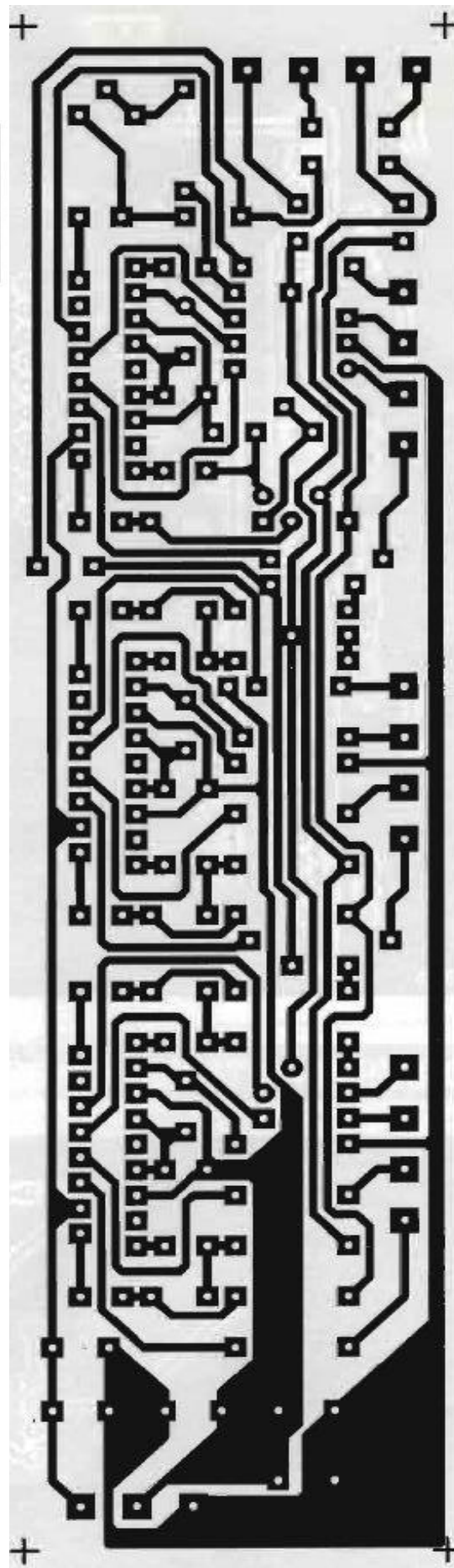
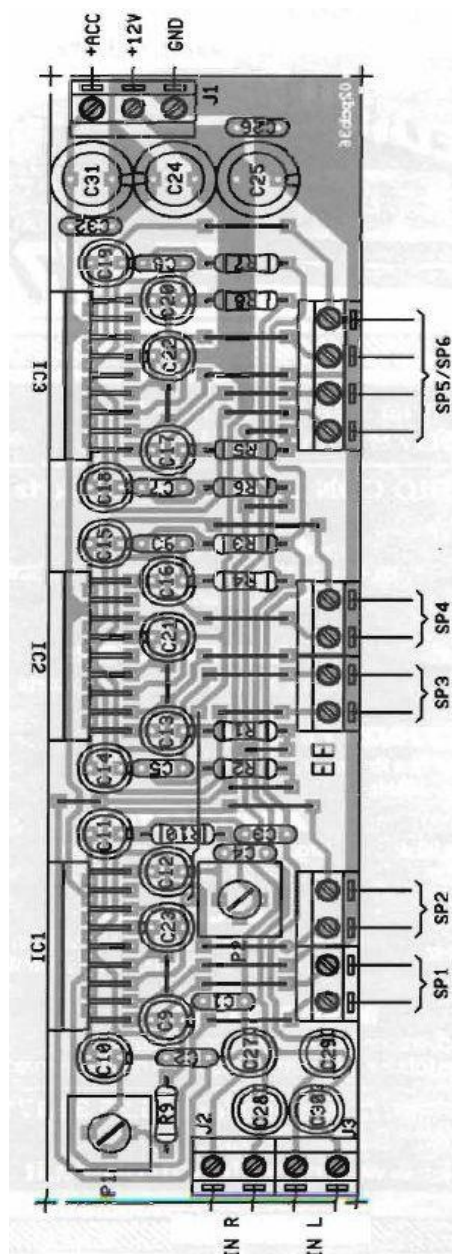
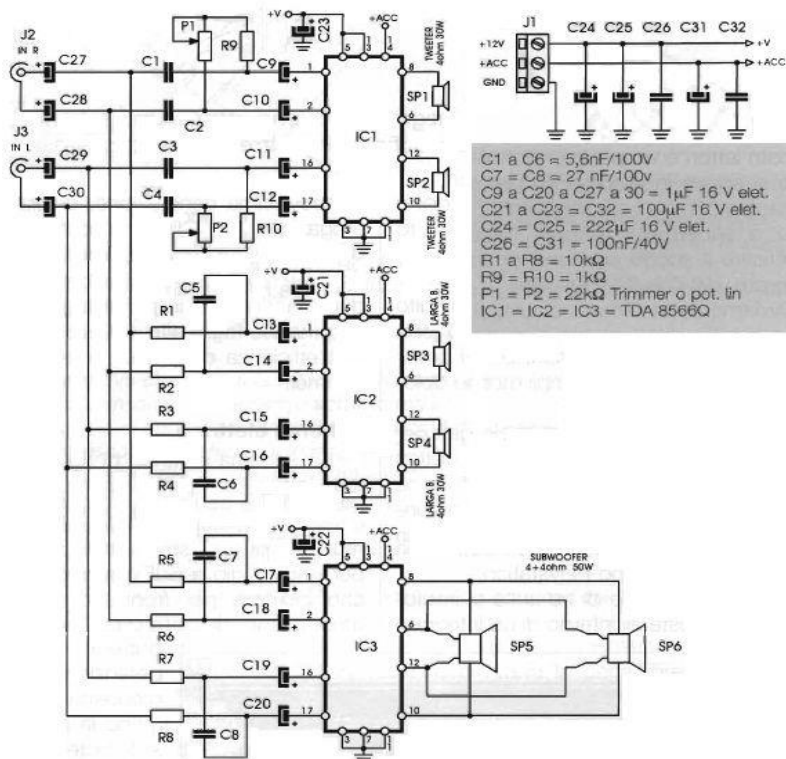


Carte Cals. Co.

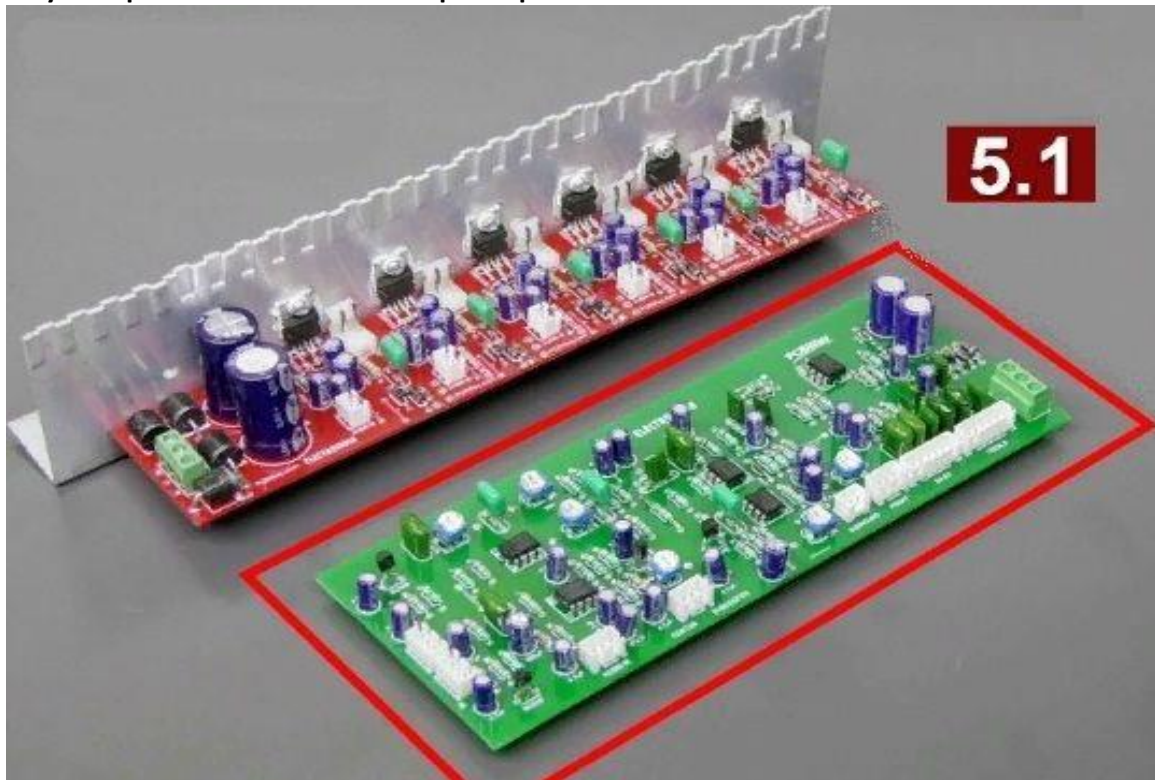




odyo ampli surround 5+1 04-01

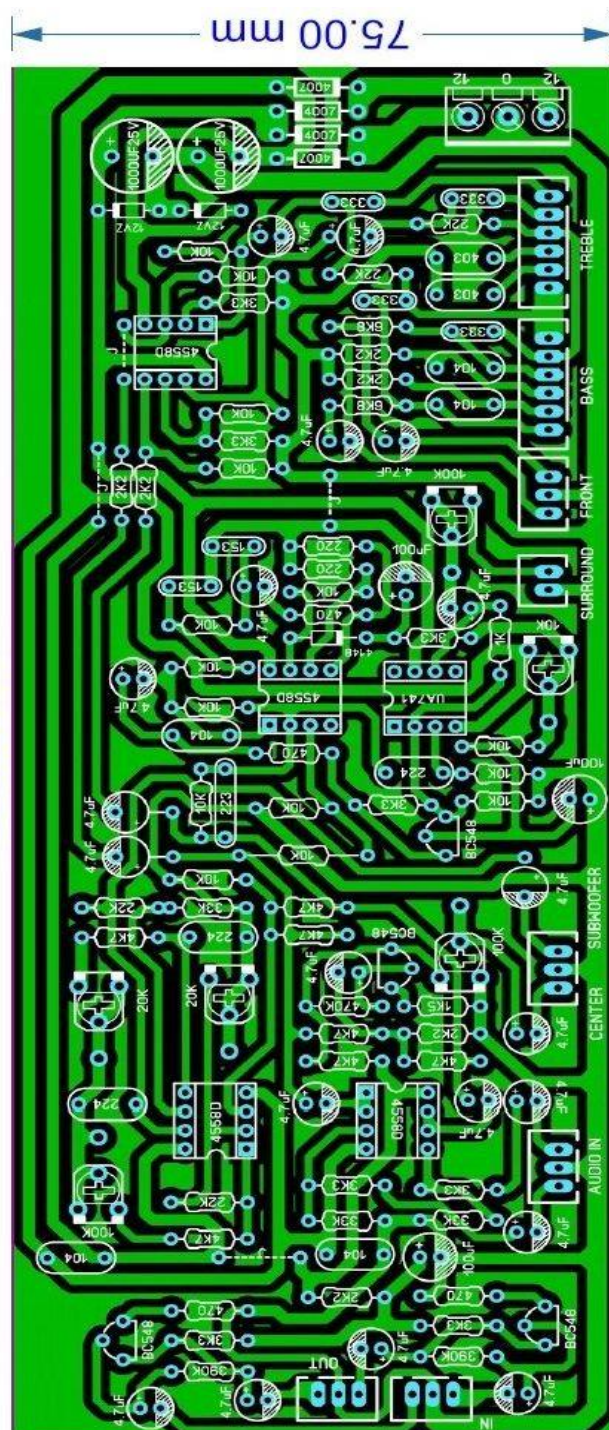
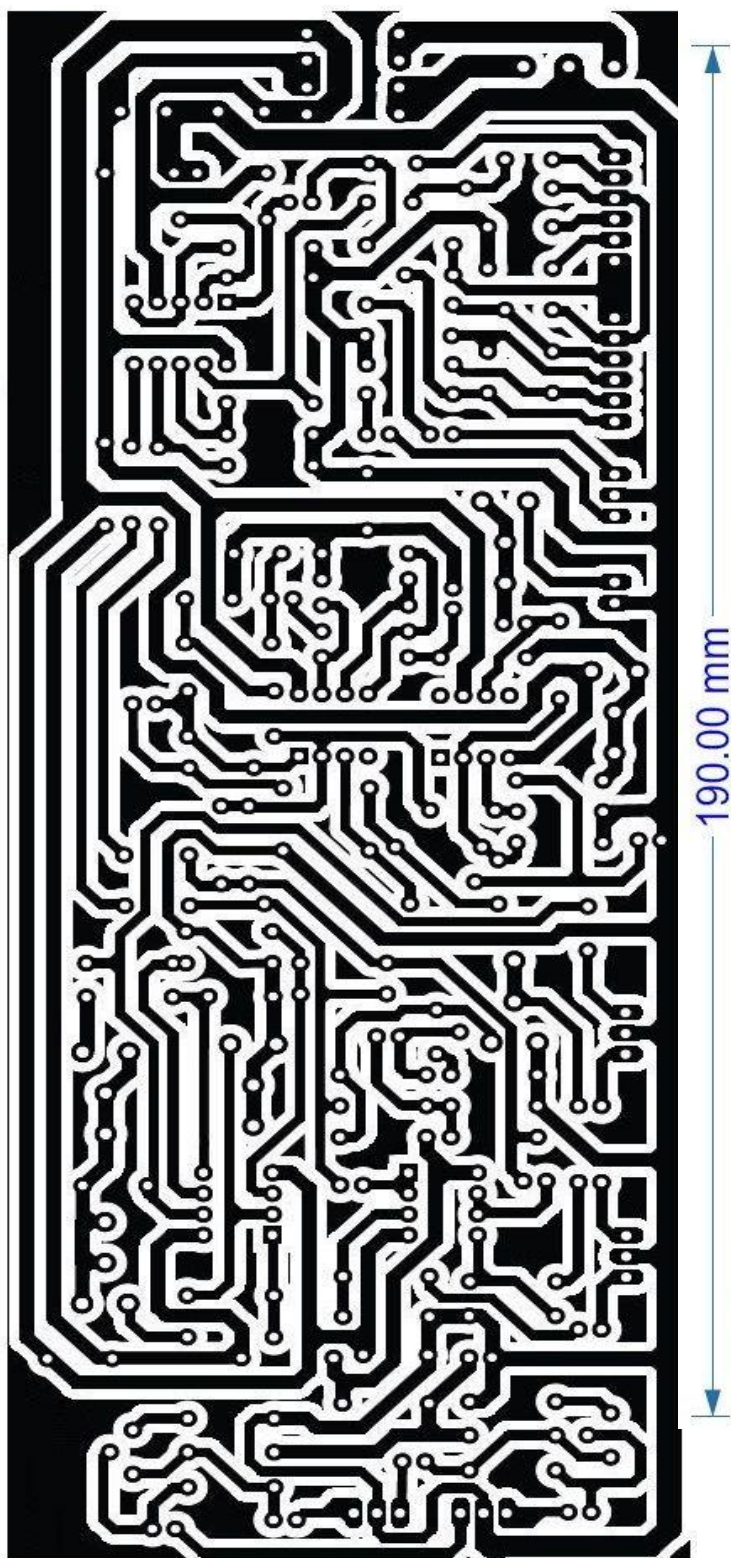


odyo ampli surround 5+1 decoder preamp 5+1 01-01



- 2 Capacitor 1000UF25V
- 3 Capacitor 100uF
- 20 Capacitor 4.7uF
- 2 Capacitor 0.015uf = 153
- 1 Capacitor 0.022uf = 223
- 4 Capacitor 0.033uf = 333
- 2 Capacitor 0.04uf = 403 or 0.047uf = 473
- 5 Capacitor 0.1uf = 104
- 3 Capacitor 0.22uf = 224
- 1 Connector - Screw Terminal 3 Pin (5mm pitch)
- 1 Connector 2 Pin (2.54mm)
- 5 Connector 3 Pin (2.54mm)
- 2 Connector 6 Pin (2.54mm) for BASS TREBLE
- 4 Diode 1N4007
- 4 IC 4558D
- 1 IC UA741
- 4 Jumper
- 3 Preset 100K

- 1 Preset 10K
- 2 Preset 20K or 22K
- 15 Resistors 1/4 Watt 10K
- 1 Resistors 1/4 Watt 1K
- 1 Resistors 1/4 Watt 1K5
- 2 Resistors 1/4 Watt 220 OHM
- 4 Resistors 1/4 Watt 22K
- 6 Resistors 1/4 Watt 2K2
- 3 Resistors 1/4 Watt 33K
- 2 Resistors 1/4 Watt 390K or 330K
- 8 Resistors 1/4 Watt 3K3
- 4 Resistors 1/4 Watt 470 OHM
- 1 Resistors 1/4 Watt 470K
- 7 Resistors 1/4 Watt 4K7
- 2 Resistors 1/4 Watt 6K8
- 4 Transistor BC548
- 2 Zener Diode 12VZ
- 1 Diode 1N4148

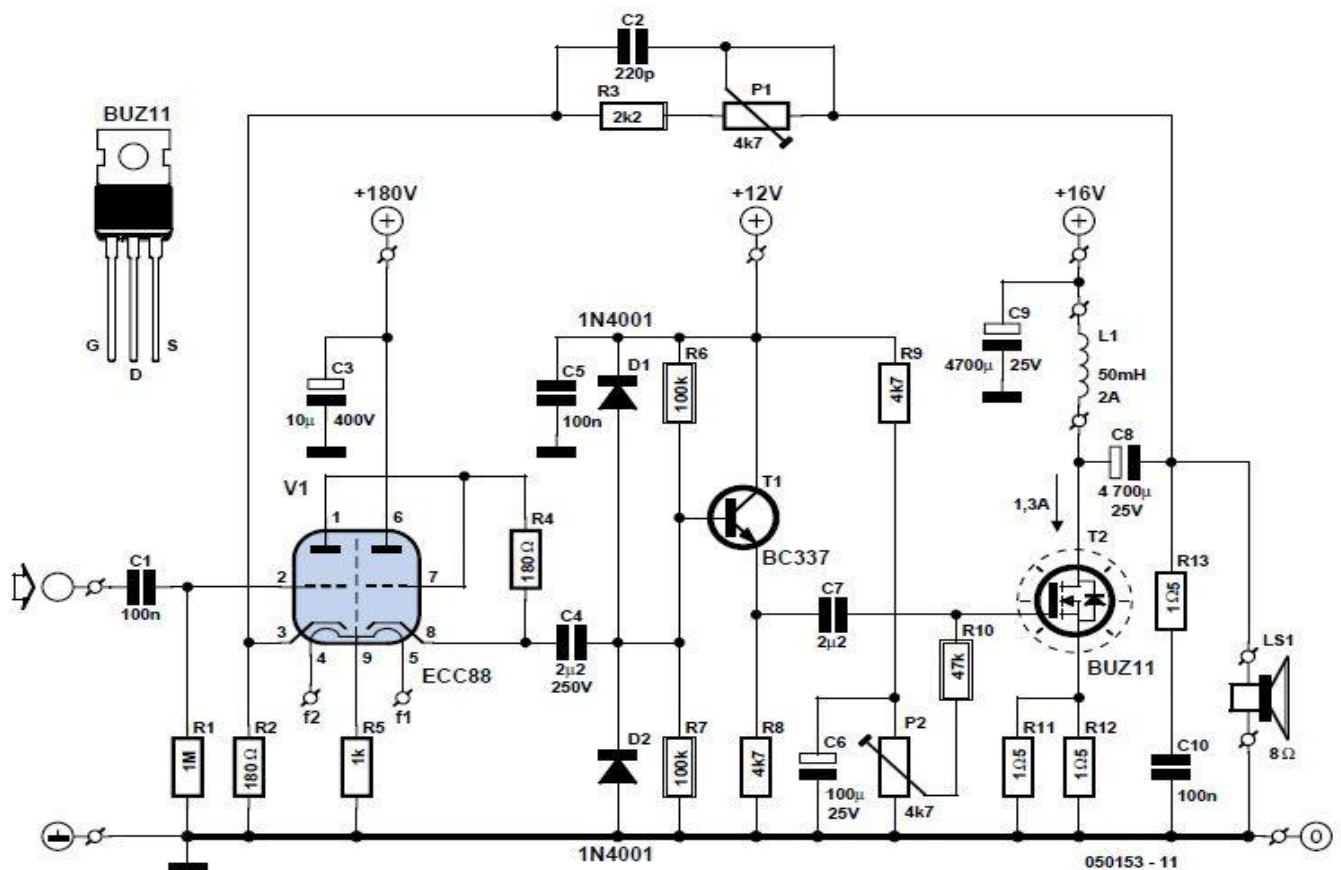


AMPLİFİKATÖRLER

(Entegre devreli - Transistörlü - Hibrit)



odyo ampli hibrit 100w 01-01



COMPONENTS LIST

Resistors

R1 = 1M Ω
 R2, R4 = 180 Ω
 R3 = 2k Ω
 R5 = 1k Ω
 R6, R7 = 100k Ω
 R8, R9 = 4k Ω
 R10 = 47k Ω
 R11, R12, R13 = 1 Ω 5W
 P1, P2 = 4k Ω 7 preset

Capacitors

C1 = 100nF 250V MKT, lead pitch 15mm, dim. 7x18 mm max.
 C2 = 220pF
 C3 = 10 μ F 400V radial, lead pitch 5 mm \varnothing 13mm max.
 C4 = 2 μ F 250V, lead pitch 27.5 mm, dim. 11x30 mm max.
 C5, C10 = 100nF
 C6 = 100 μ F 25V radial
 C7 = 2 μ F, lead pitch 5 or 7.5mm
 C8, C9 = 4700 μ F 25V radial, lead pitch 7.5mm, \varnothing 18mm max.

Inductors

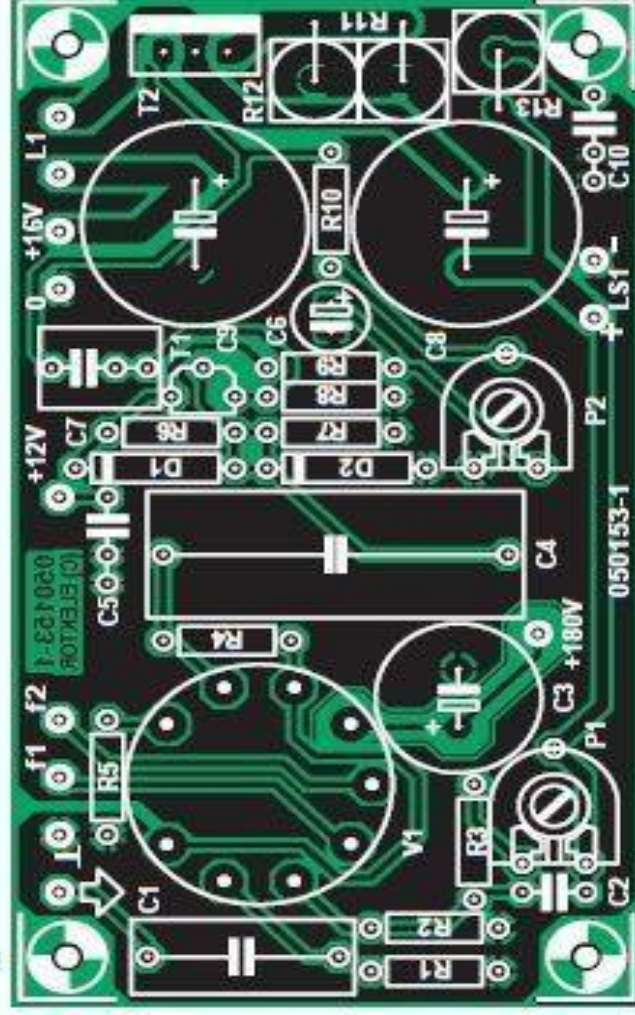
L1 = \geq 50 mH, not on board, see text

Semiconductors

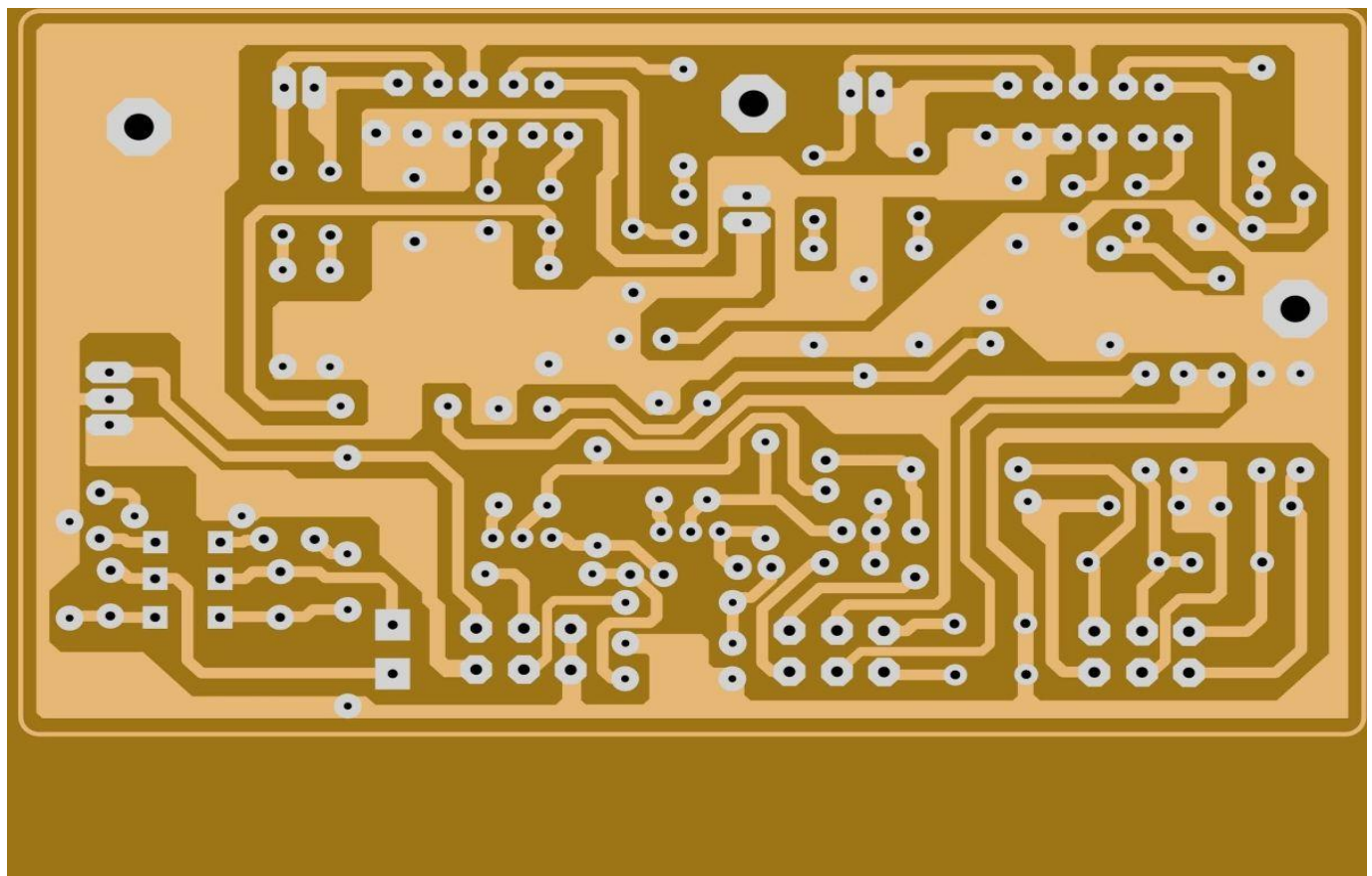
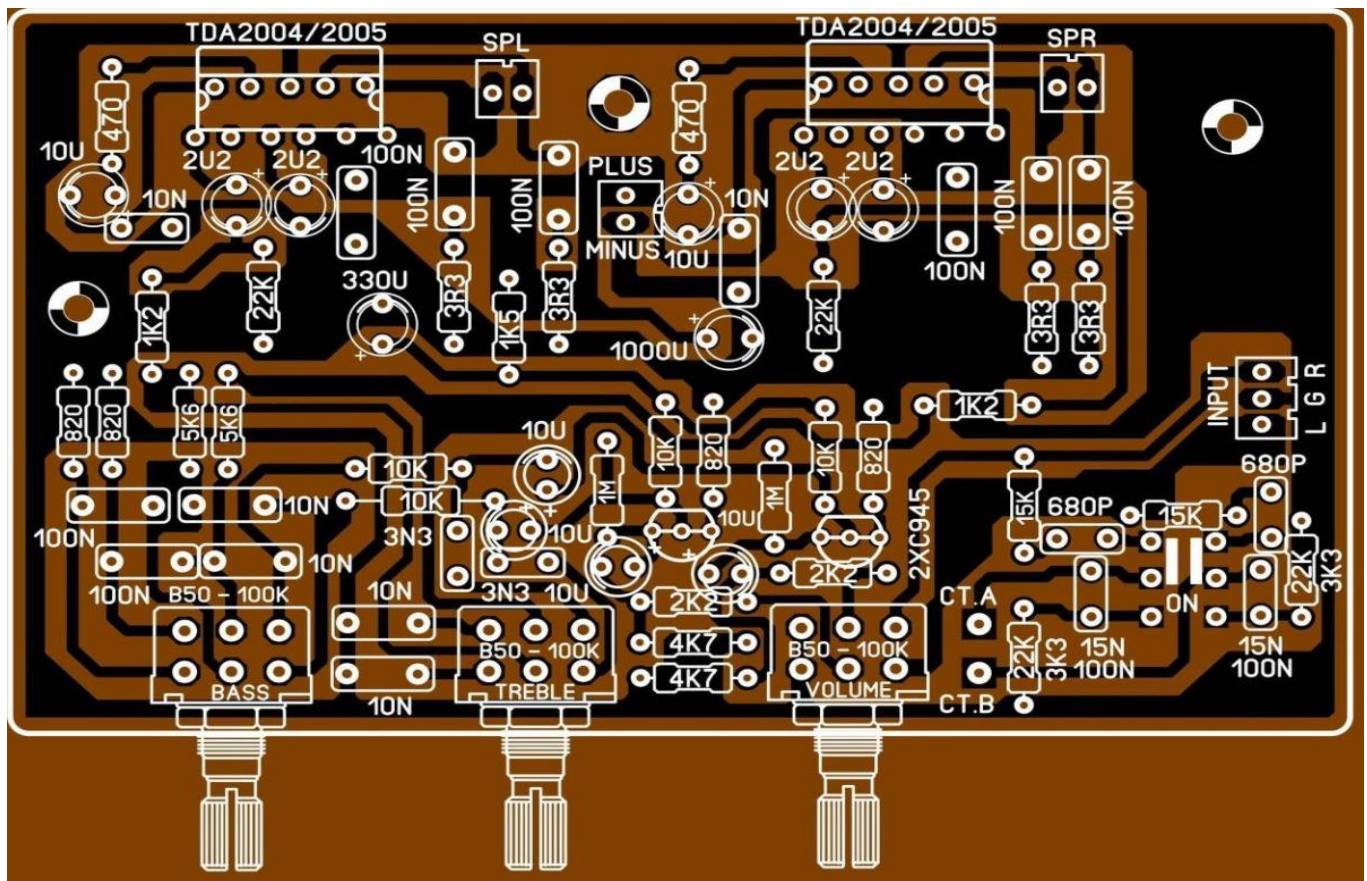
D1, D2 = 1N4001
 T1 = BC337
 T2 = BUZ11 (or IRFZ34N)

Miscellaneous

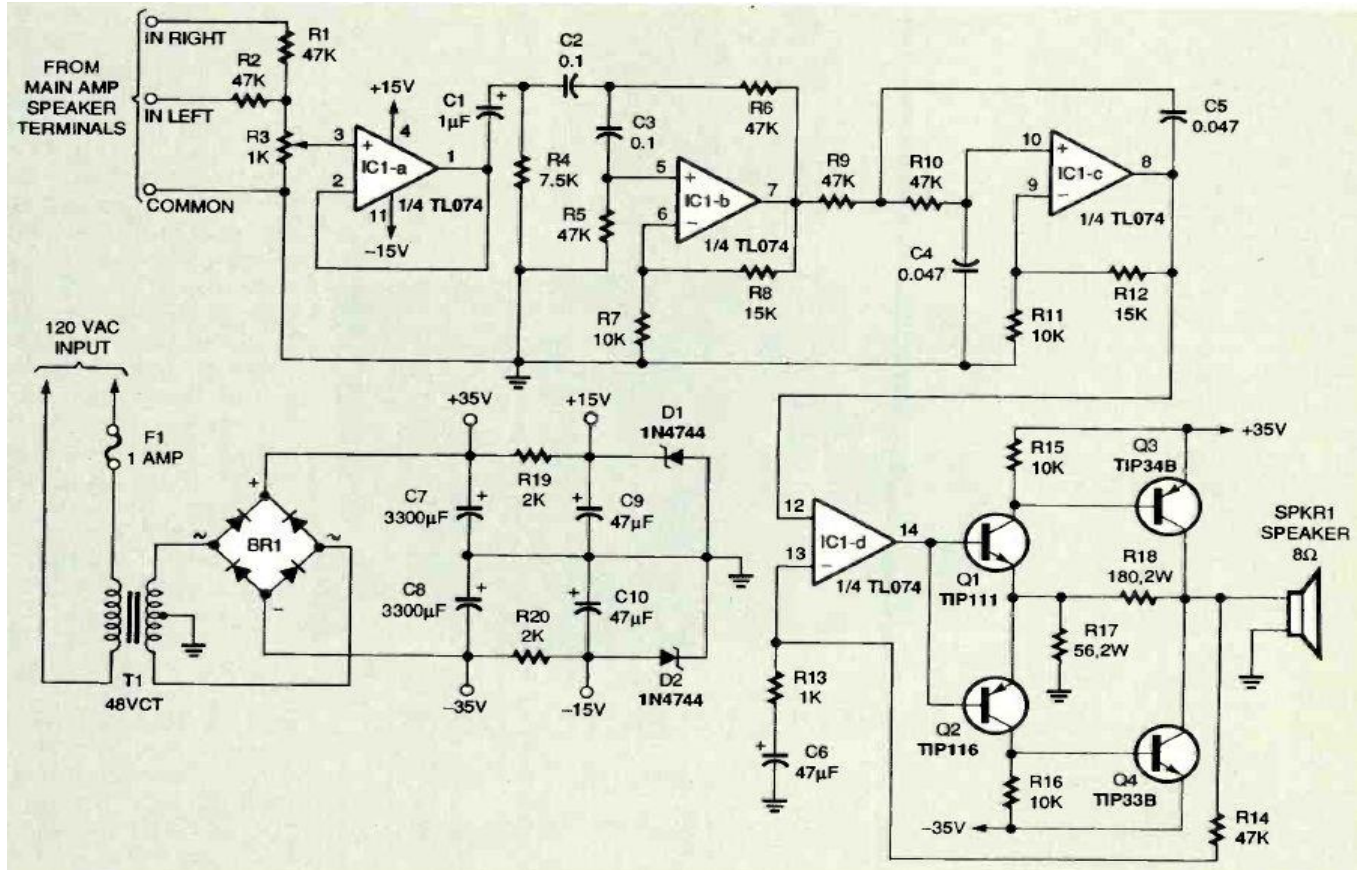
V1 = ECC88 with 9-pin valve socket (Chelmer Valve Company)
 Heatsink for T2, \leq 1 K/W
 PCB, ref. 050153-1 from The PCBShop



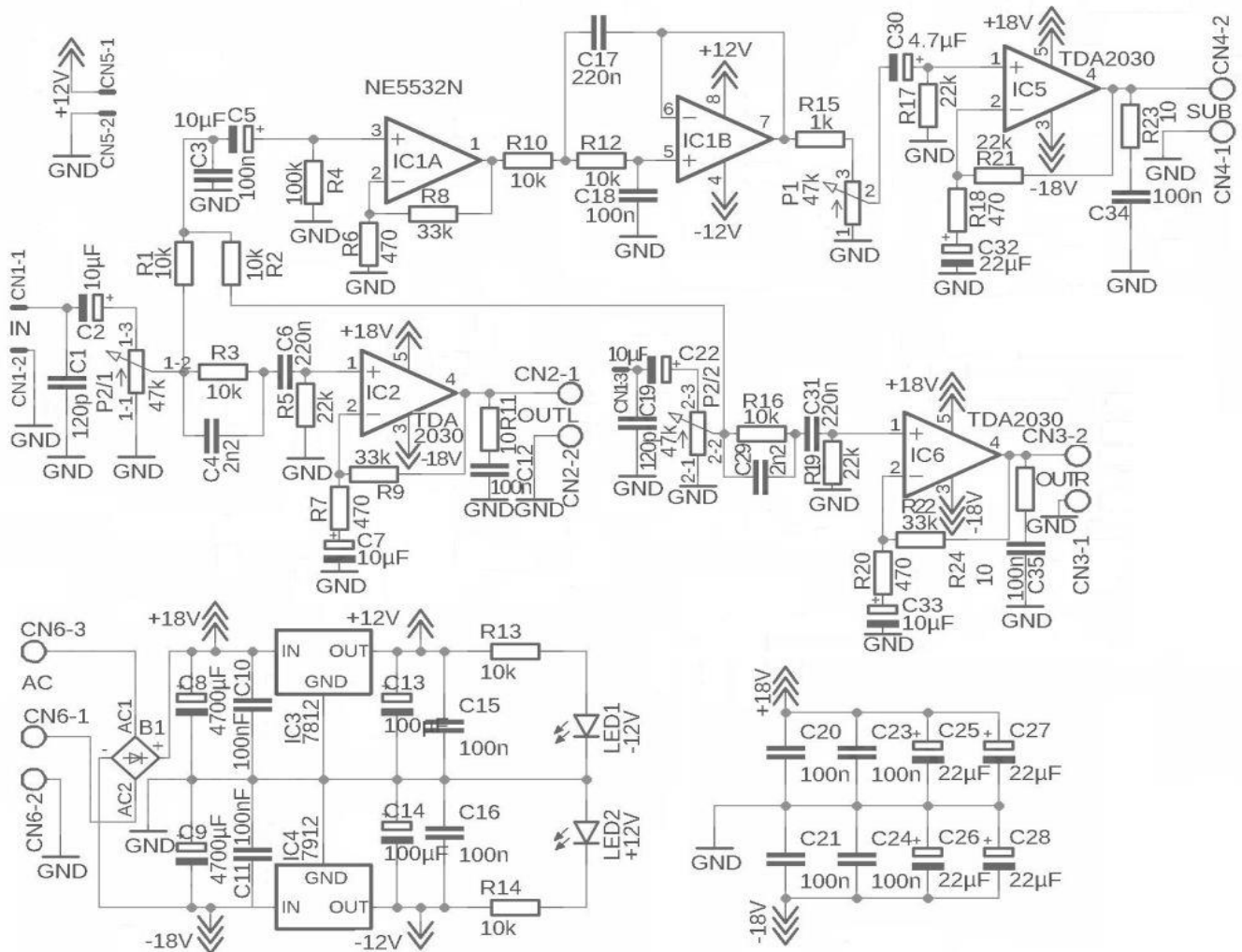
odyo ampli surround stereo 10w 01-01



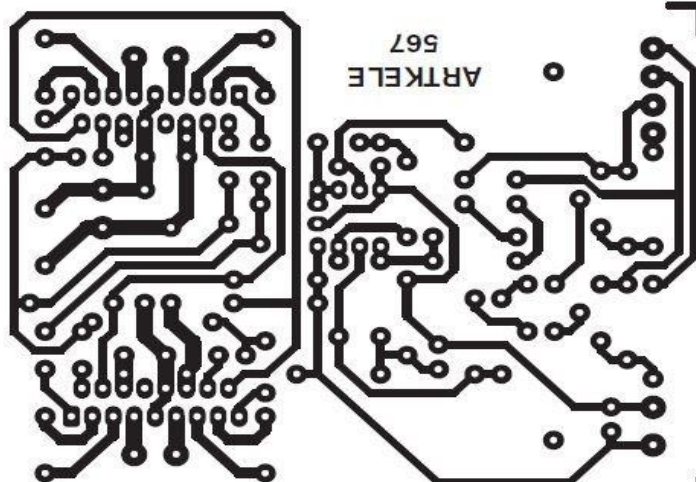
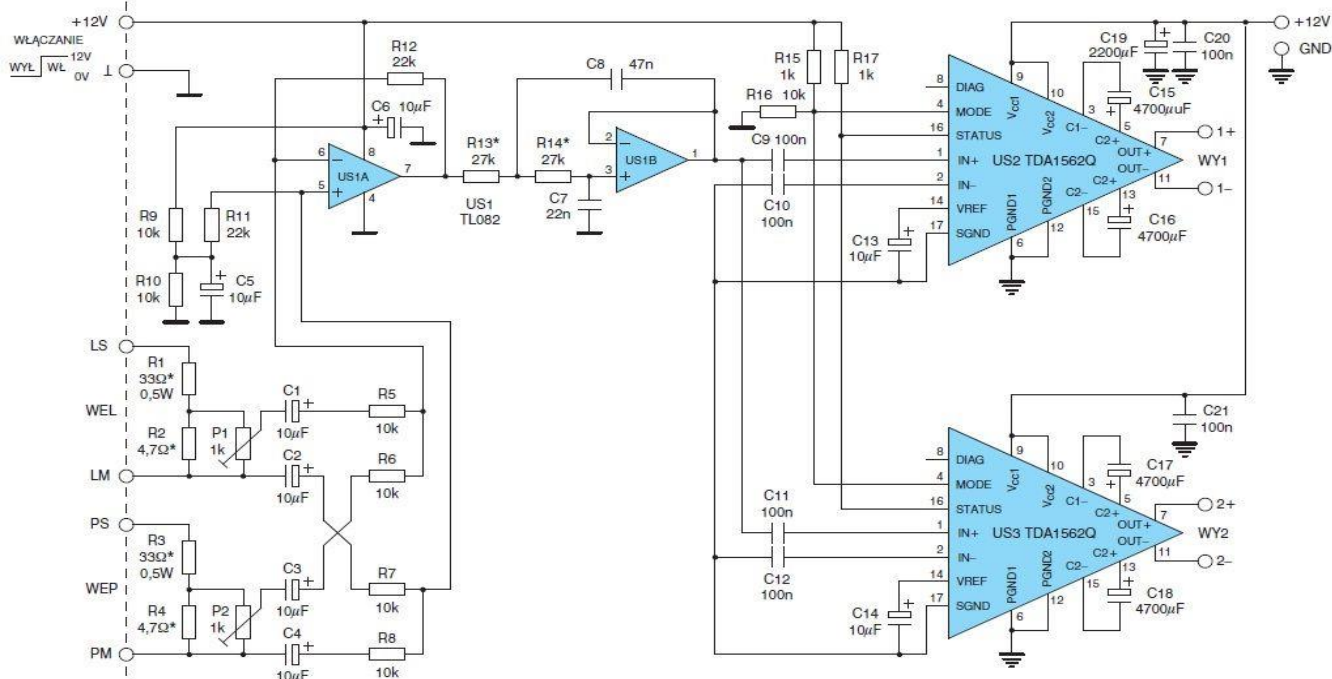
odyo ampli surround stereo 10w 02-01



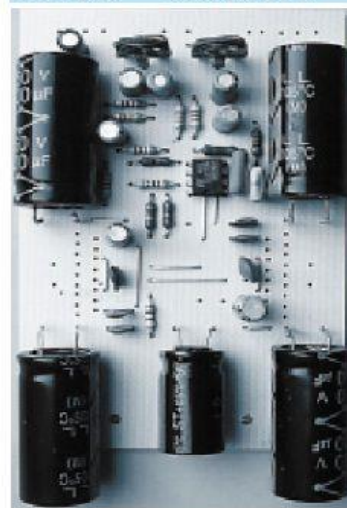
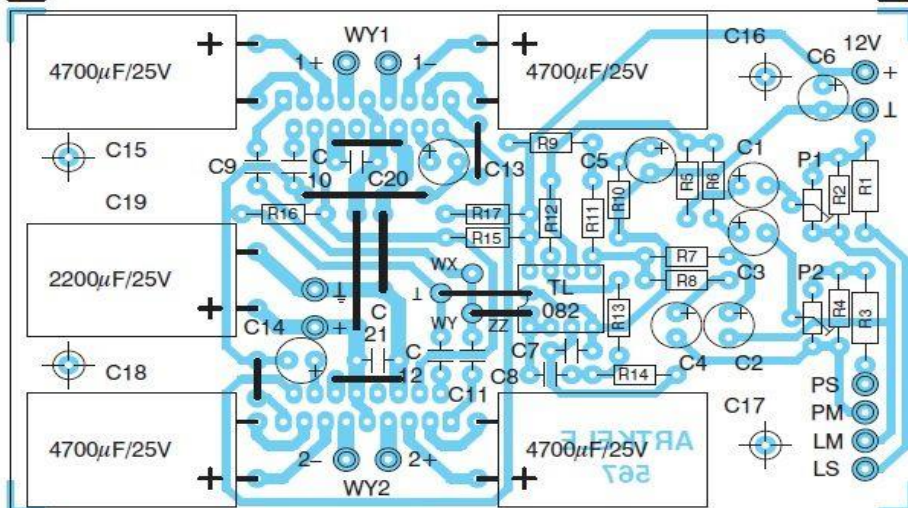
odyo ampli surround stereo 18w 01-01



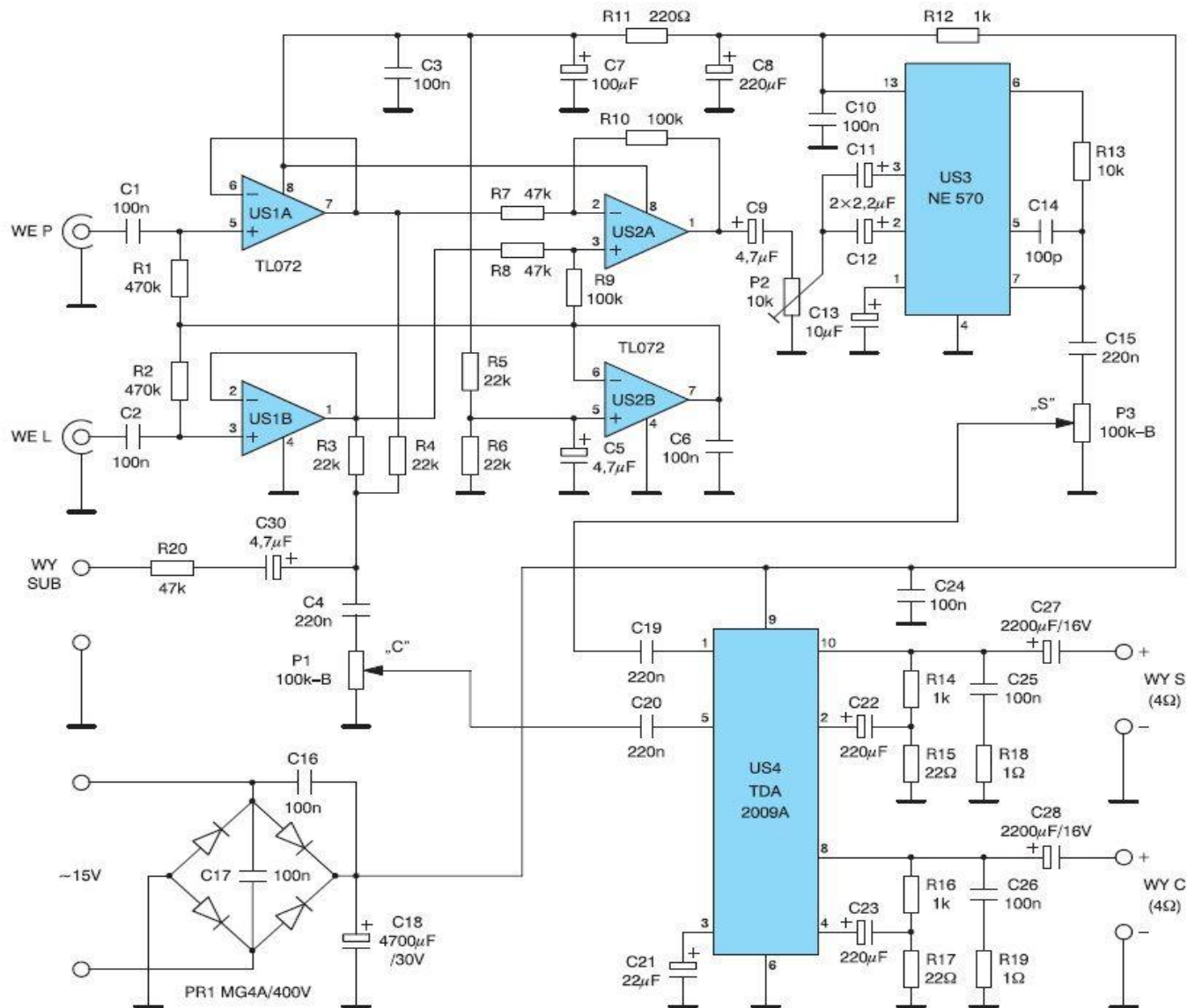
odyo ampli surround stereo 140+140w 01-01 tda1562q



- US1 – TL 082
- US2, US3 – TDA 1562Q
- R2*, R4* – 4,7 Ω /0,25 W
- R1*, R3* – 33 Ω /0,5 W
- R15, R17 – 1 k Ω /0,125 W
- R5 ÷ R10, R16 – 10 k Ω /0,125 W
- R11, R12 – 22 k Ω /0,125 W
- R13*, R14* – 27 k Ω /0,125 W
- P1, P2 – 1 k Ω TVP 1232
- C7 – 22 nF/100 V MKSE-20
- C8 – 47 nF/63 V MKSE-20
- C9 ÷ C12, C21, C22 – 100 nF/50 V MKSE-20
- C1 ÷ C6, C13, C14 – 10 μ F/25 V
- C19 – 2200 μ F/25 V
- C15 ÷ C18 – 4700 μ F/25 V



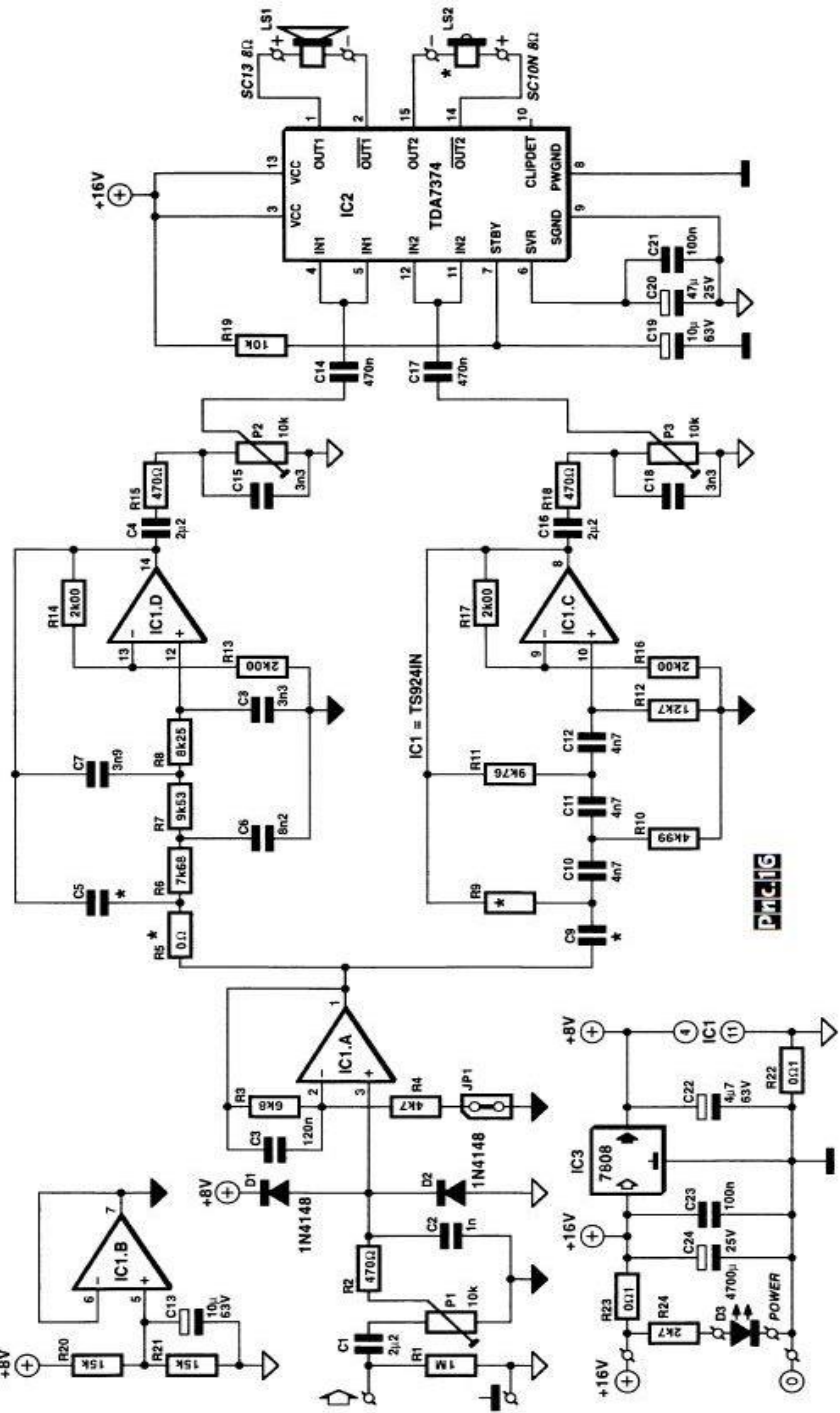
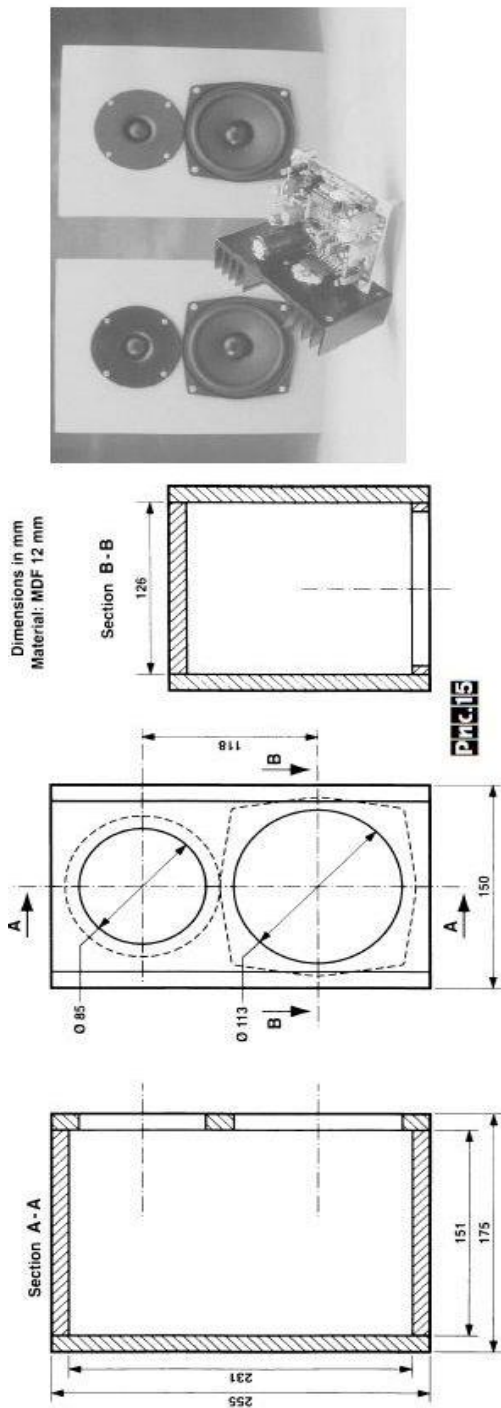
odyo ampli surround subwoofer 10w 01-01 tda2009a



US1, US2	– TL 072
US3	– NE 570, NE 571
US4	– TDA 2009A
PR1	– MG 4A/400V
R18, R19	– 1 Ω /0,25 W
R15, R17	– 22 Ω /0,125 W
R11	– 220 Ω /0,125 W
R12, R14,	
R16	– 1 k Ω /0,125 W
R13	– 10 k Ω /0,125 W
R3, R4,	
R5, R6	– 22 k Ω /0,125 W
R7, R8,	
R20	– 47 k Ω /0,125 W
R9, R10	– 100 k Ω /0,125 W
R1, R2	– 470 k Ω /0,125 W
P2	– 10 k Ω TVP 1232
P1, P3	– 100 k Ω -B PR 185
C14	– 100 pF/50 V ceramiczny
C29	– 820 pF/50 V ceramiczny

C1, C2	– 100 nF/63 V MKSE-20
C3, C6,	
C10, C16,	
C17, C24,	
C25, C26	– 100 nF/50 ceramiczny
C4, C15,	
C19, C20	– 220 nF/63 V MKSE-20
C11, C12	– 2,2 μ F/50 V
C5, C9,	
C30	– 4,7 μ F/25 V
C13	– 10 μ F/25 V
C21	– 22 μ F/16 V
C7	– 100 μ F/25 V
C8	– 220 μ F/25 V
C22, C23	– 220 μ F/16 V
C27, C28	– 2200 μ F/16 V
C18	– 4700 μ F/30 V

odyo ampli surround subwoofer 20w 01-01 tda7374



odyo ampli surround subwoofer 20w 02-01 tda7374

Widerstände:

R1, R2 = 220 k
R3, R4 = 22 k
R5, R6 = 4k7
R7...R11 = 10 k
R12, R13 = 0,1 Ω /5 W
R14 = 2k7
P1 = 22 k log. mono
P2 = 4k7 lin. stereo

Kondensatoren:

C1, C2 = 470 n
C3 = 1 n, Raster 5 mm
C4 = 330 n, Raster 5 mm
C5 = 15 n, Raster 5 mm
C6 = 150 n, Raster 5 mm
C7 = 2 μ 2 MKT, Raster 5/7,5 mm
C8, C9 = 47 μ /25 V stehend
C10, C13 = 100 n, Raster 5 mm
C11 = 10 μ /63 V stehend
C12 = 4 μ 7/63 V stehend
C14 = 4700 μ /25 V stehend, Raster 7,5 mm, Durchmesser max. 17 mm

Halbleiter:

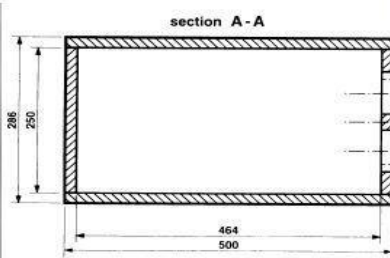
D1 = LED rot, 5 mm, Low-current
IC1 = TS924IN ST (Farnell)
IC2 = TDA7374B ST
IC3 = 7808

Außerdem:

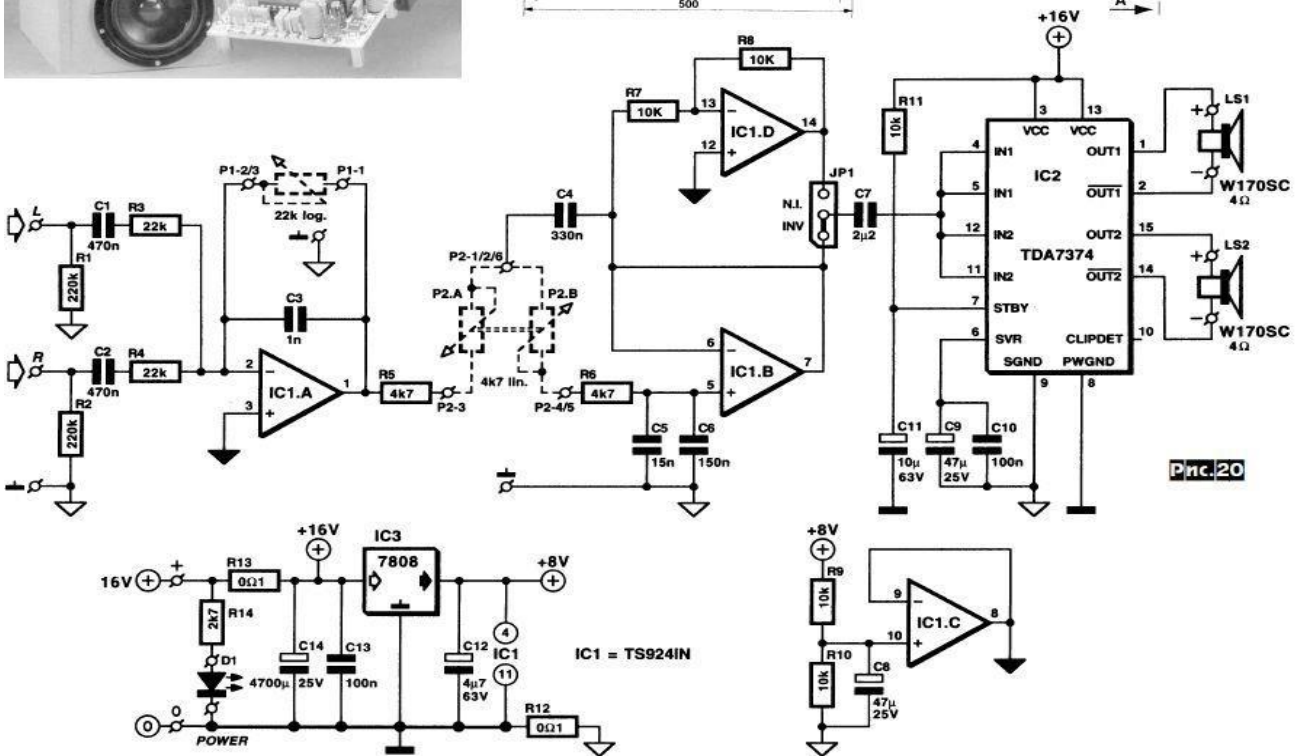
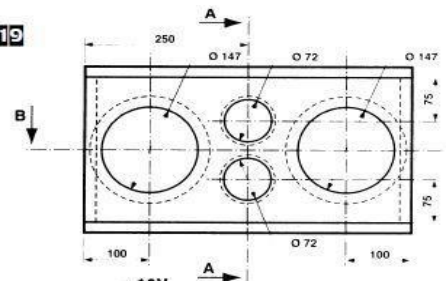
JP1 = 3-polige Stiftleiste + Jumper
LS1, LS2 = W170SC 4 Ω Visaton
2 Stück Bassreflex-Rohr, Durchmesser 72 mm, Länge 145 mm
Kühlkörper z.B. Fischer SK100, 50 mm hoch *
Abdicht-Band MDM-5 (Monacor)
Lautsprecherbox-Dämmwolle
Platine EPS 020054-2 (siehe Service-Seiten in der Heft-Mitte)

* siehe Text

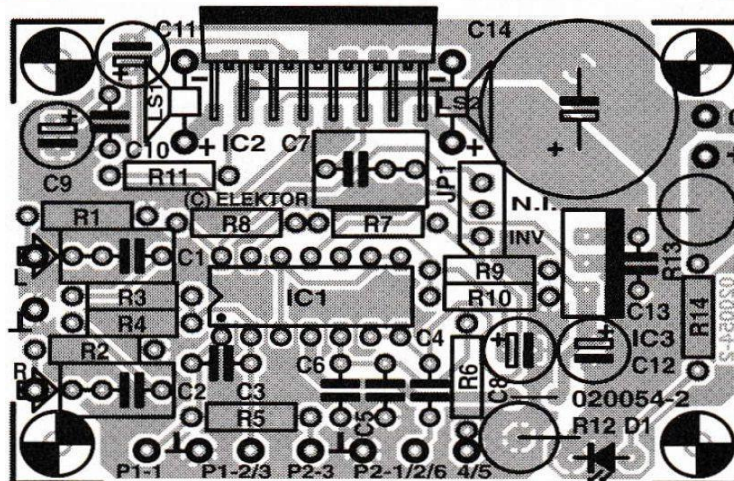
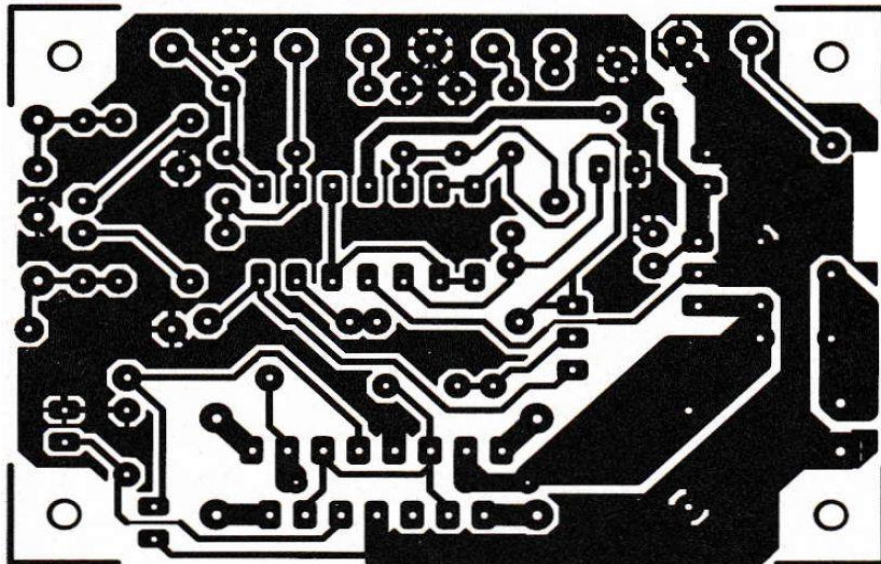
Das Platinen-Layout kann von der Elektor-Website www.elektor.de kostenlos heruntergeladen werden.



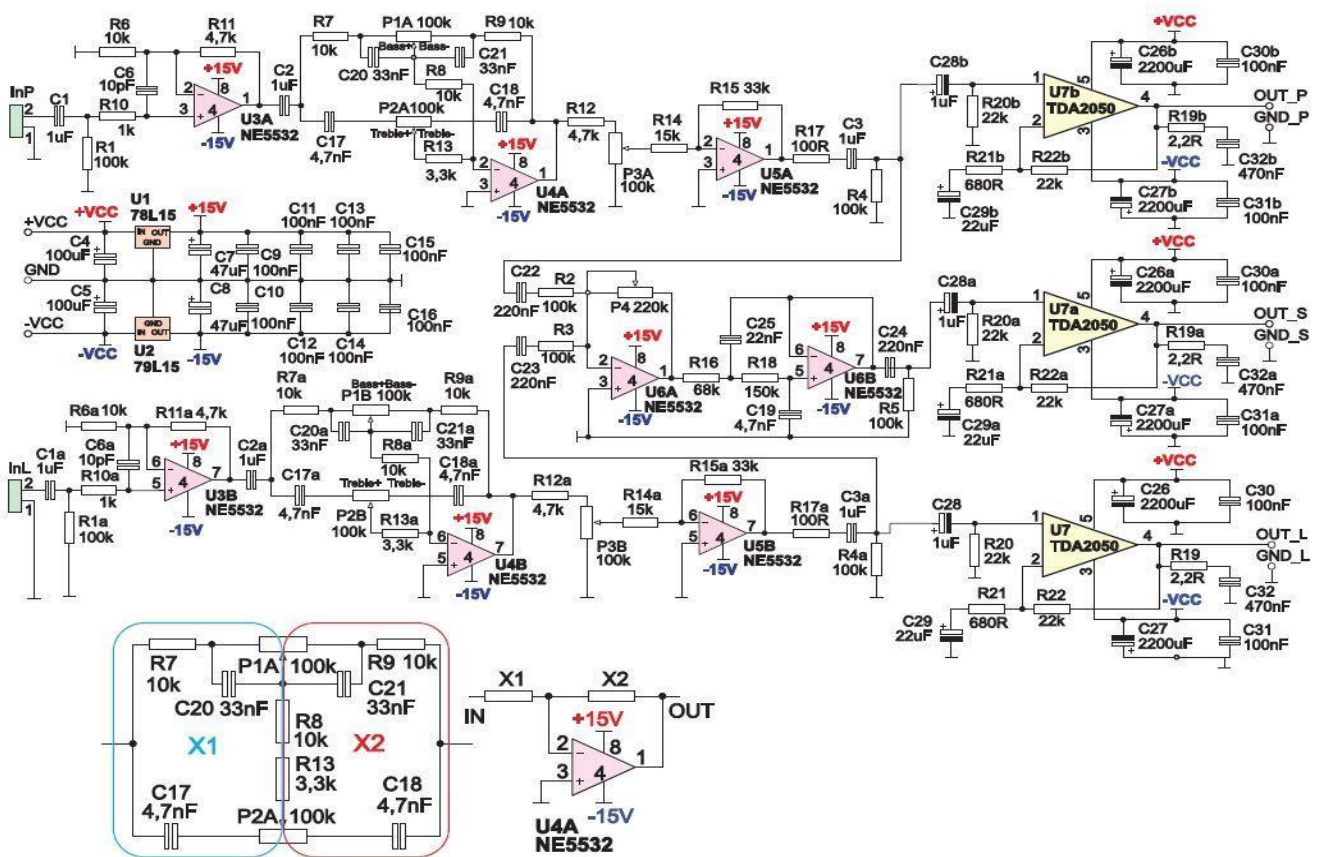
Prnc.19



Prnc.20

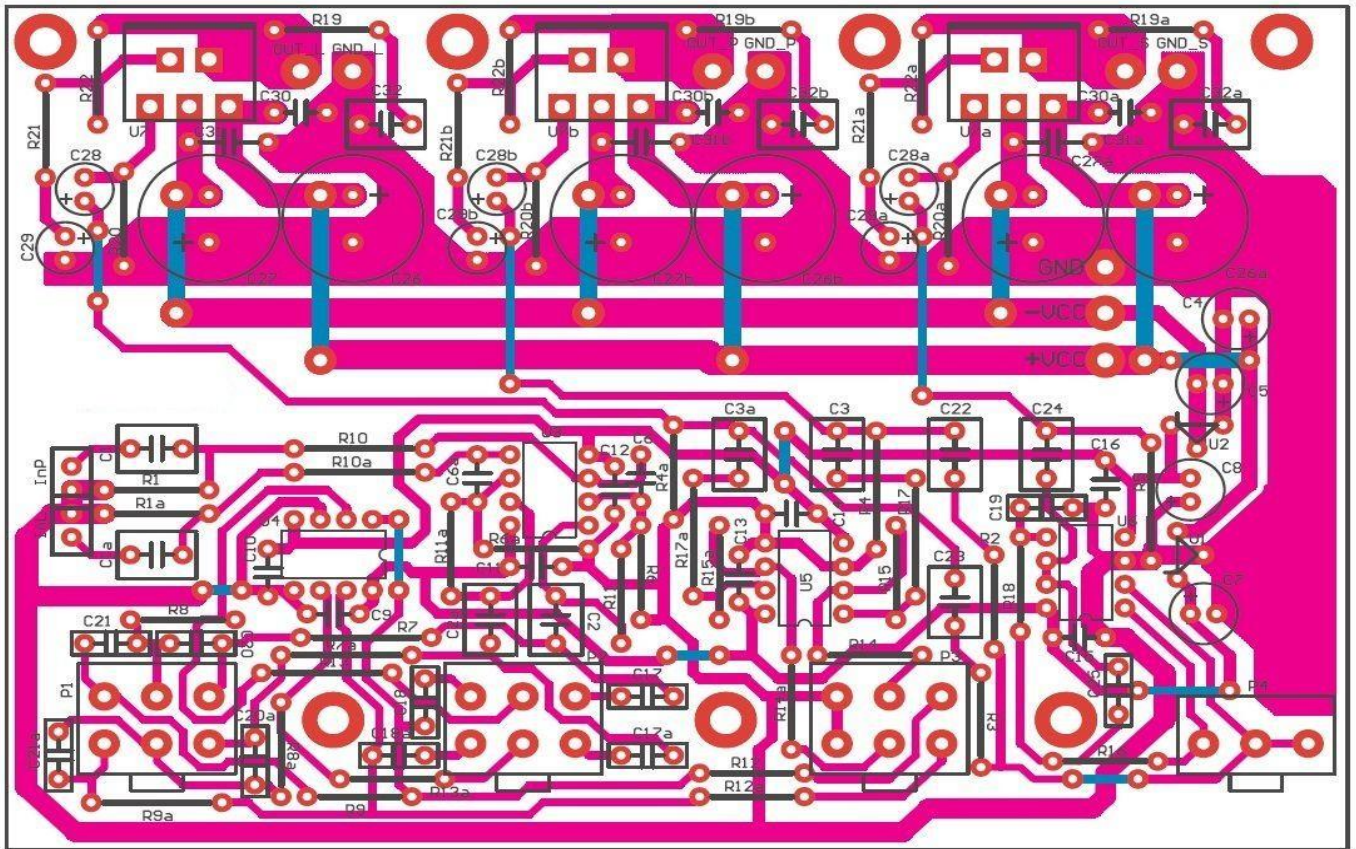
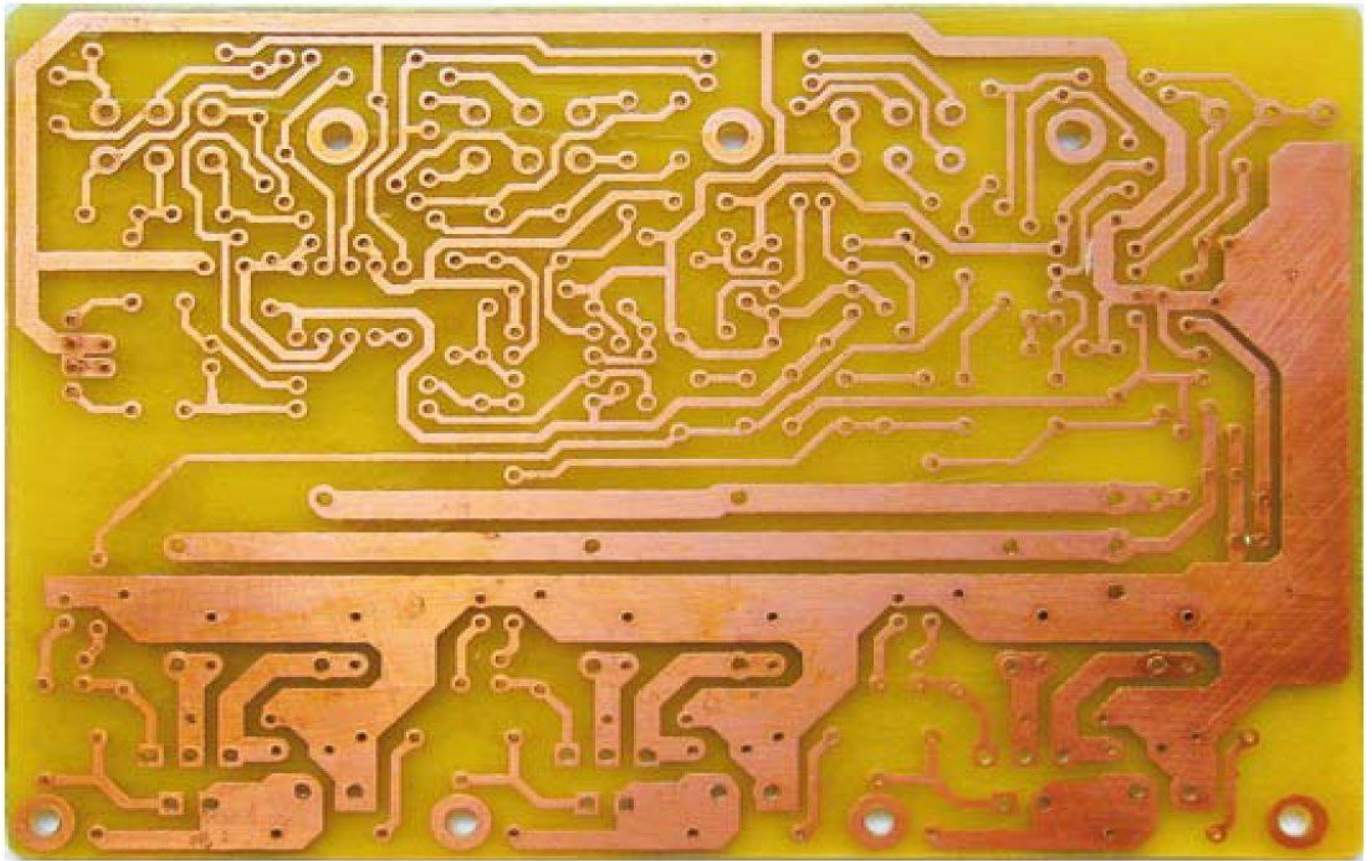


odyo ampli surround subwoofer 20w 03-01 tda2050

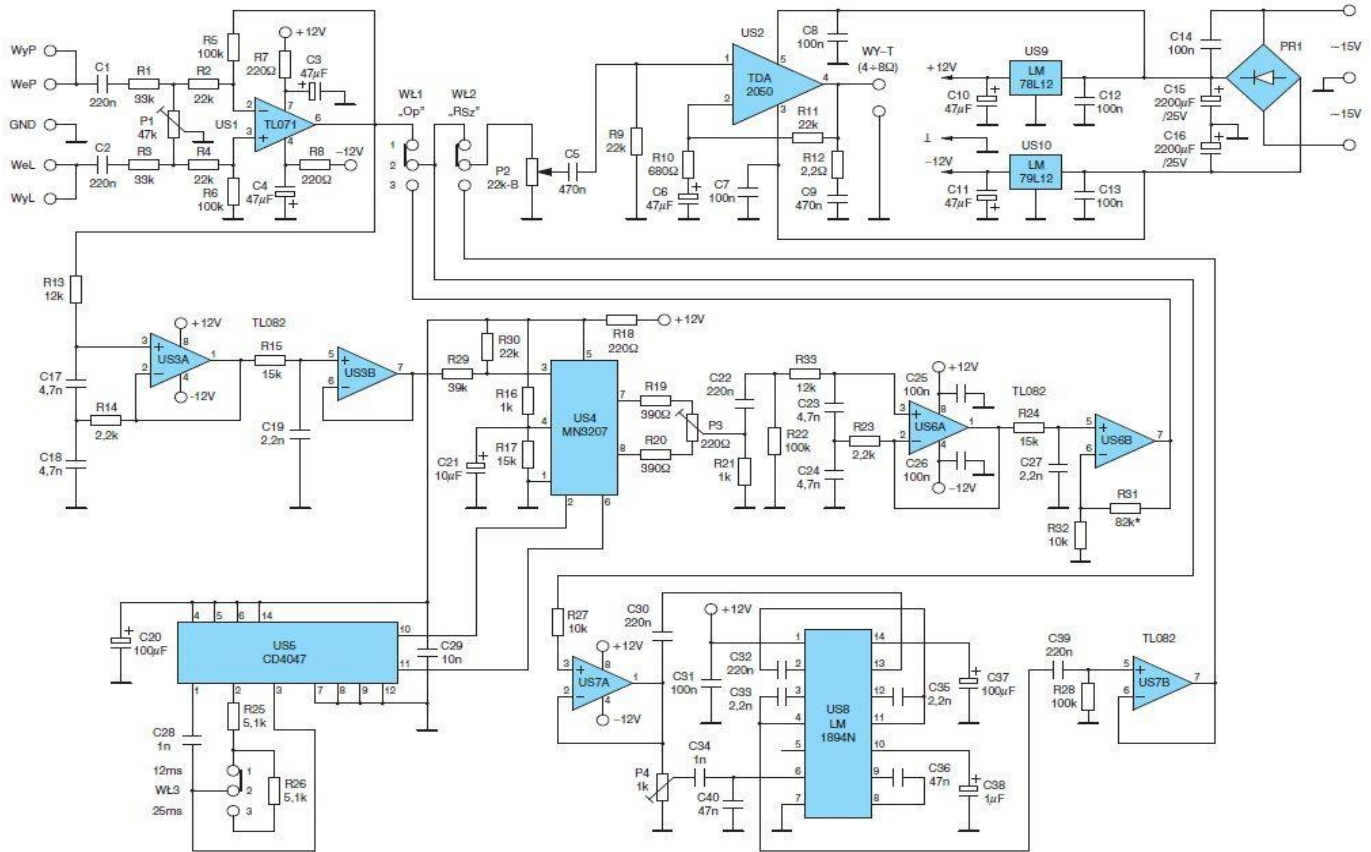


Wykaz elementów

InL, InP	.....	Listwa Goldpin 1x2	U1	.....	78L15
R10, R10a	.....	1kΩ	U2	.....	79L15
C28, C28a, C28b	.....	elektrolit, 1uF	R17, R17a	.....	100R
C1, C1a, C2, C2a, C3, C3a	.....	1uF	P1, P2, P3	.....	potencjometr, 100kΩ
R19, R19a, R19b	.....	2,2Ω	R1, R1a, R2, R3, R4a	.....	100kΩ
R13a	.....	3,3kΩ	R4, R5	.....	100kΩ
R13	.....	3,3kΩ	C9, C10, C11, C12, C13, C14, C15, C16, C30, C30a, C30b	.....	100nF
R11, R11a, R12, R12a	.....	4,7kΩ	C31, C31a, C31b	.....	100nF
C17, C17a, C18, C18a, C19	.....	4,7nF	C4, C5	.....	elektrolit, 100uF
R6, R6a, R8, R8a, R9	.....	10kΩ	R18	.....	150kΩ
R7, R7a, R9a	.....	10kΩ	P4	.....	220kΩ
C6, C6a	.....	10pF	C22, C23, C24	.....	220nF
R14, R14a	.....	15kΩ	C32, C32a, C32b	.....	470nF
R20, R20a, R20b, R22, R22a, R22b	.....	22kΩ	R21, R21a, R21b	.....	680Ω
C25	.....	22nF	C26, C26a, C26b, C27, C27a, C27b	.....	2200uF
C29, C29a, C29b	.....	elektrolit, 22uF	U3, U4, U5, U6	.....	NE5532
R15, R15a	.....	33kΩ	U7, U7a, U7b	.....	TDA2050
C20, C20a, C21, C21a	.....	33nF			
C7, C8	.....	elektrolit, 47uF			



odyo ampli surround subwoofer 25w 01-01



Półprzewodniki

US1	– TL 071
US2	– TDA 2050 (2051)
US3, US6,	
US7	– TL 082
US4	– MN 3207
US5	– CD 4047
US8	– LM 1894N
US9	– LM 78L12
US10	– LM 79L12
PR1	– RB 154 (1,5 ÷ 2 A)

Rezystory

R12	– 2,2 Ω/0,5 W
R7, R8,	
R18	– 220 Ω/0,125 W
R19, R20	– 390 Ω/0,125 W
R10	– 680 Ω/0,125 W

R16, R21	– 1 kΩ/0,125 W
R14, R23	– 2,2 kΩ/0,125 W
R25, R26	– 5,1 kΩ/0,125 W
R27, R32	– 10 kΩ/0,125 W
R13, R33	– 12 kΩ/0,125 W
R15, R17,	
R24	– 15 kΩ/0,125 W
R2, R4, R9,	
R11, R30	– 22 kΩ/0,125 W
R1, R3	– 33 kΩ/0,125 W
R29	– 39 kΩ/0,125 W
R31	– 82 kΩ/0,125 W

R5, R6,	
R22, R28	– 100 kΩ/0,125 W
P3	– 220 Ω TVP 1232
P4	– 1 kΩ TVP 1232

Rezystory

P1	– 47 kΩ TVP 1232
P2	– 22 kΩ-B PR-185

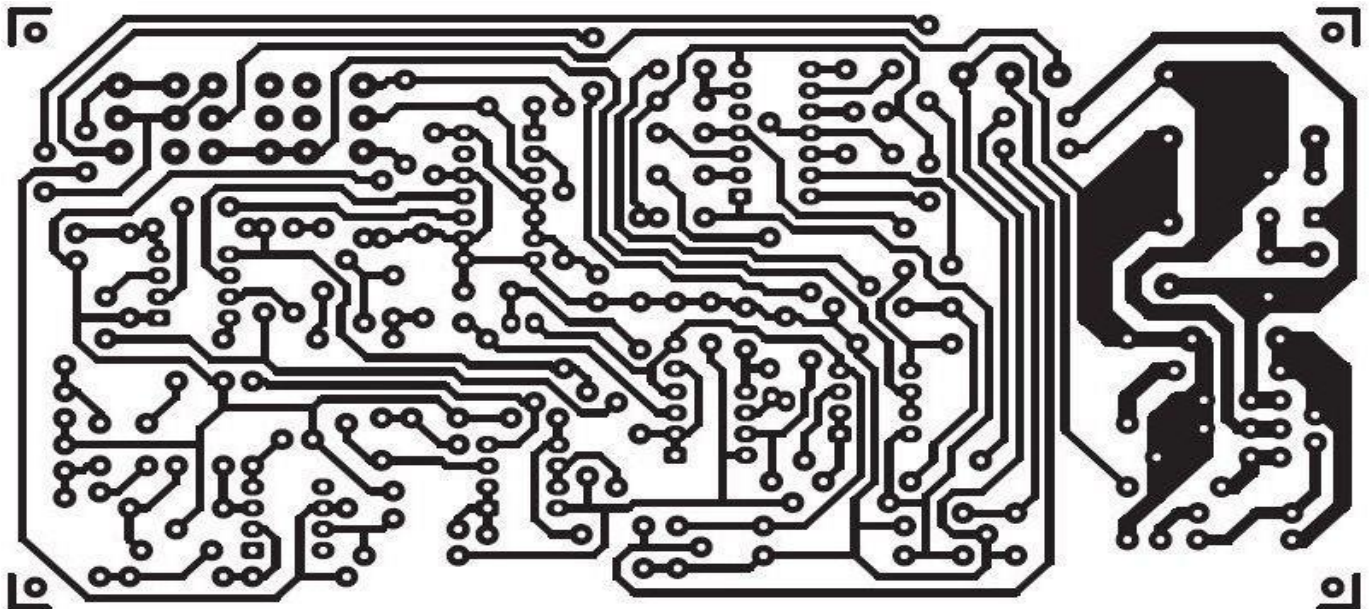
Kondensatory

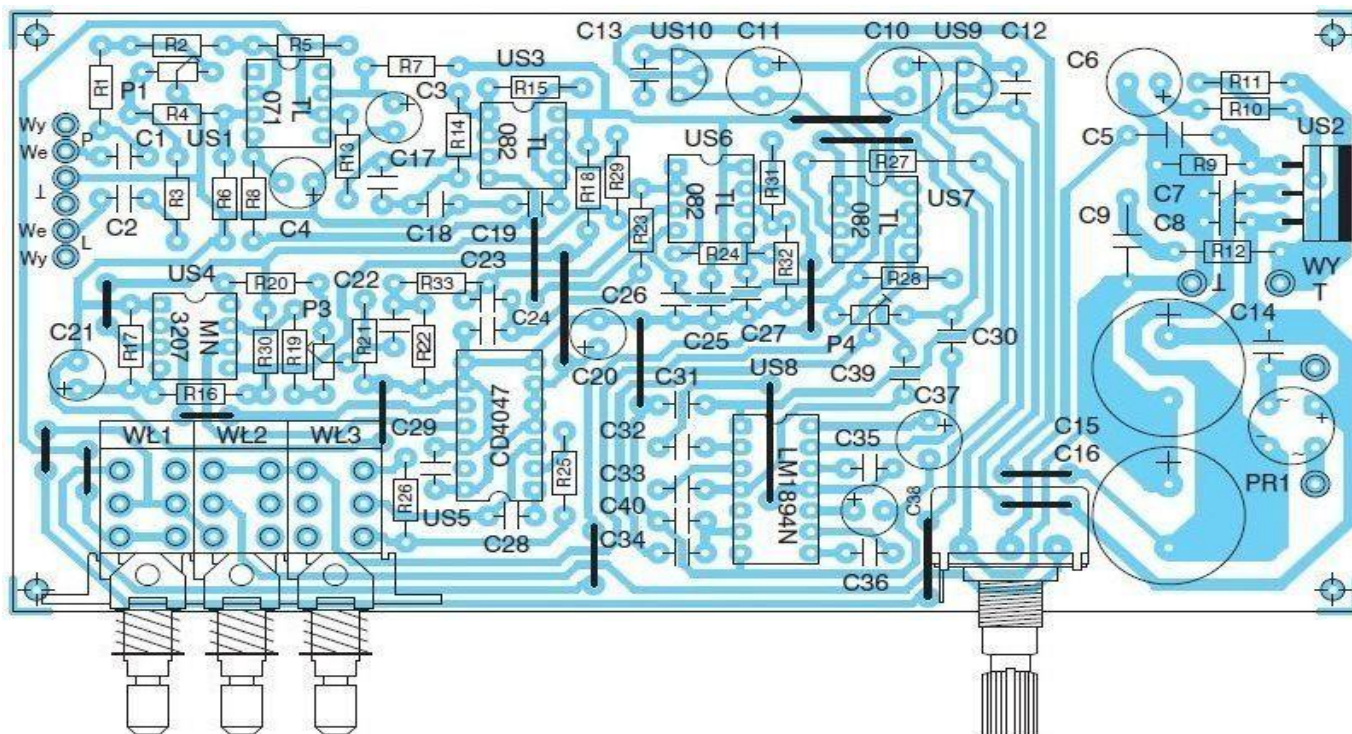
C28, C34	– 1 nF/50 V ceramiczny
C19, C27,	
C33, C35	– 2,2 nF/50 V ceramiczny
C17, C18,	
C23, C24	– 4,7 nF/50 V ceramiczny
C29	– 10 nF/50 V ceramiczny
C36, C40	– 47 nF/63 V MKSE-20
C7, C8,	
C12, C13,	
C14 C25,	
C26, C31	– 100 nF/63 V MKSE-20
C1, C2,	
C22, C30,	

C32, C39	– 220 nF/63 V MKSE-20
C5, C9	– 470 nF/63 V MKSE-20
C38	– 1 μF/50 V
C21	– 10 μF/25 V
C3, C4, C6,	
C10, C11	– 47 μF/16 V
C20, C37	– 100 μF/16 V
C15, C16	– 2200 μF/25 V

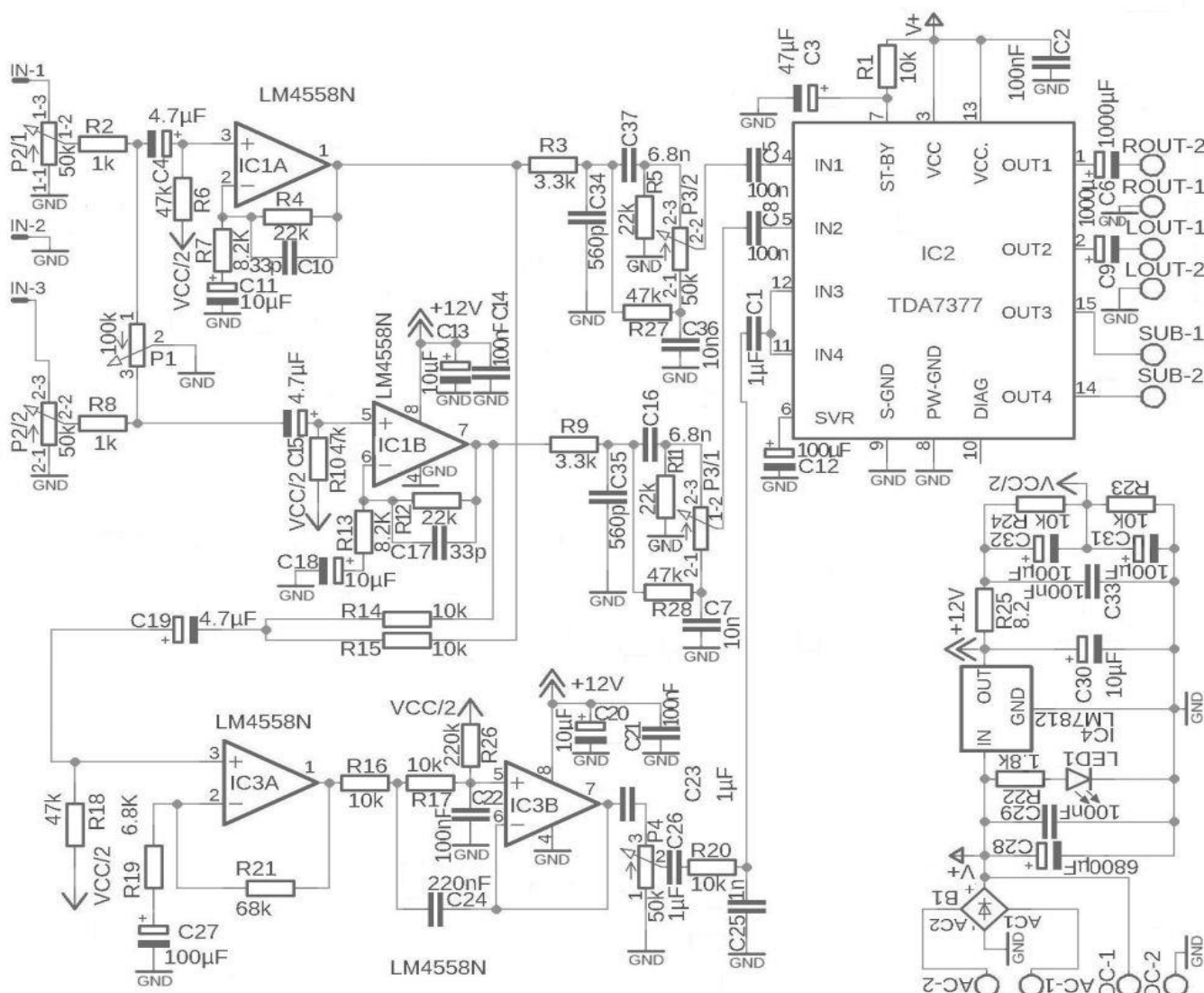
Inne

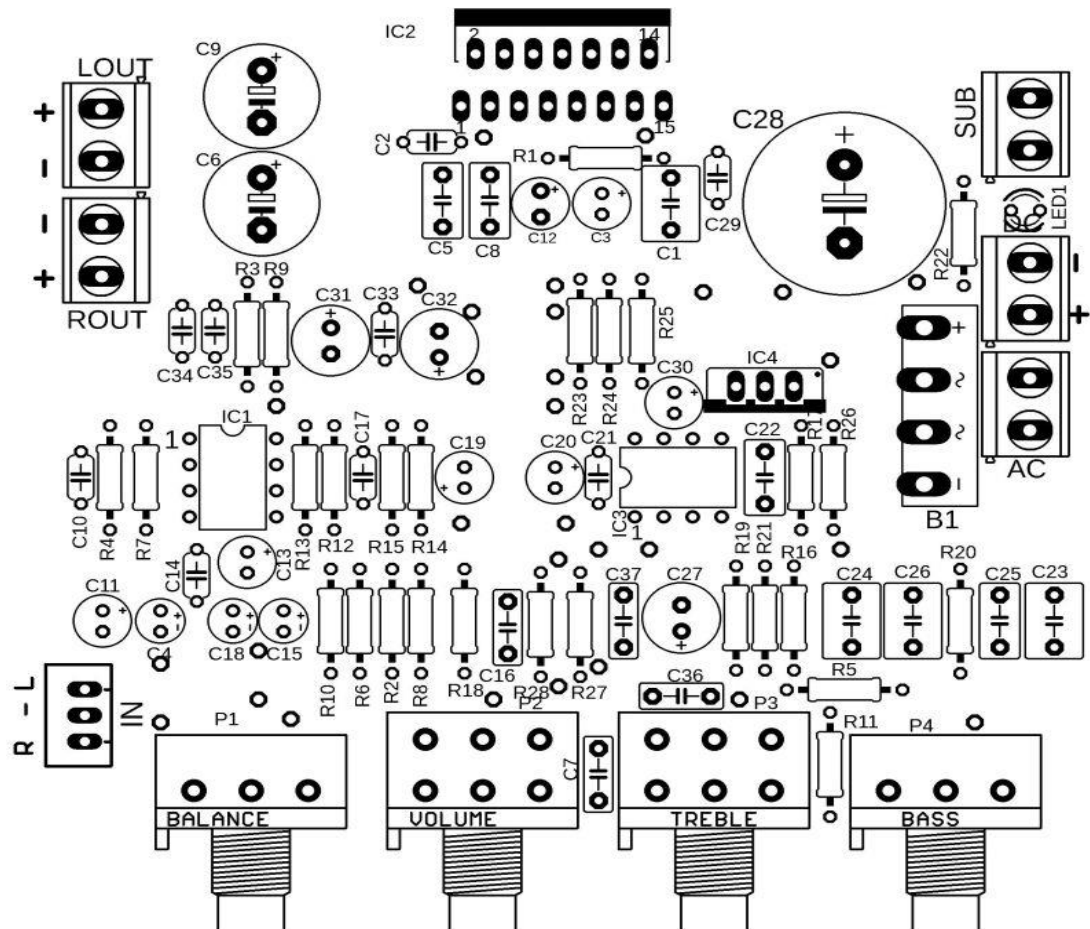
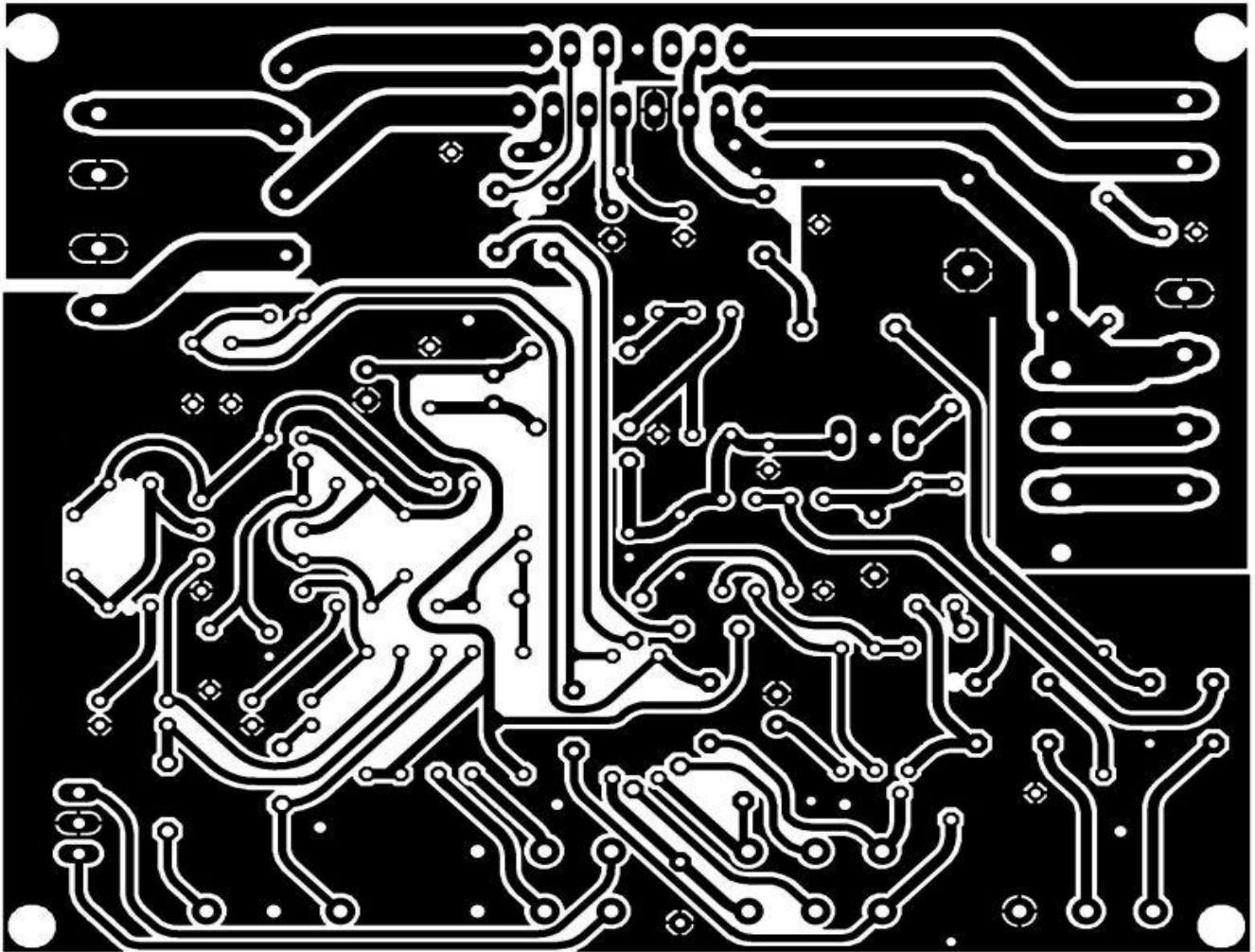
WŁ1, WŁ2,	
WŁ3	– patrz tekst
	plytka drukowana numer 507

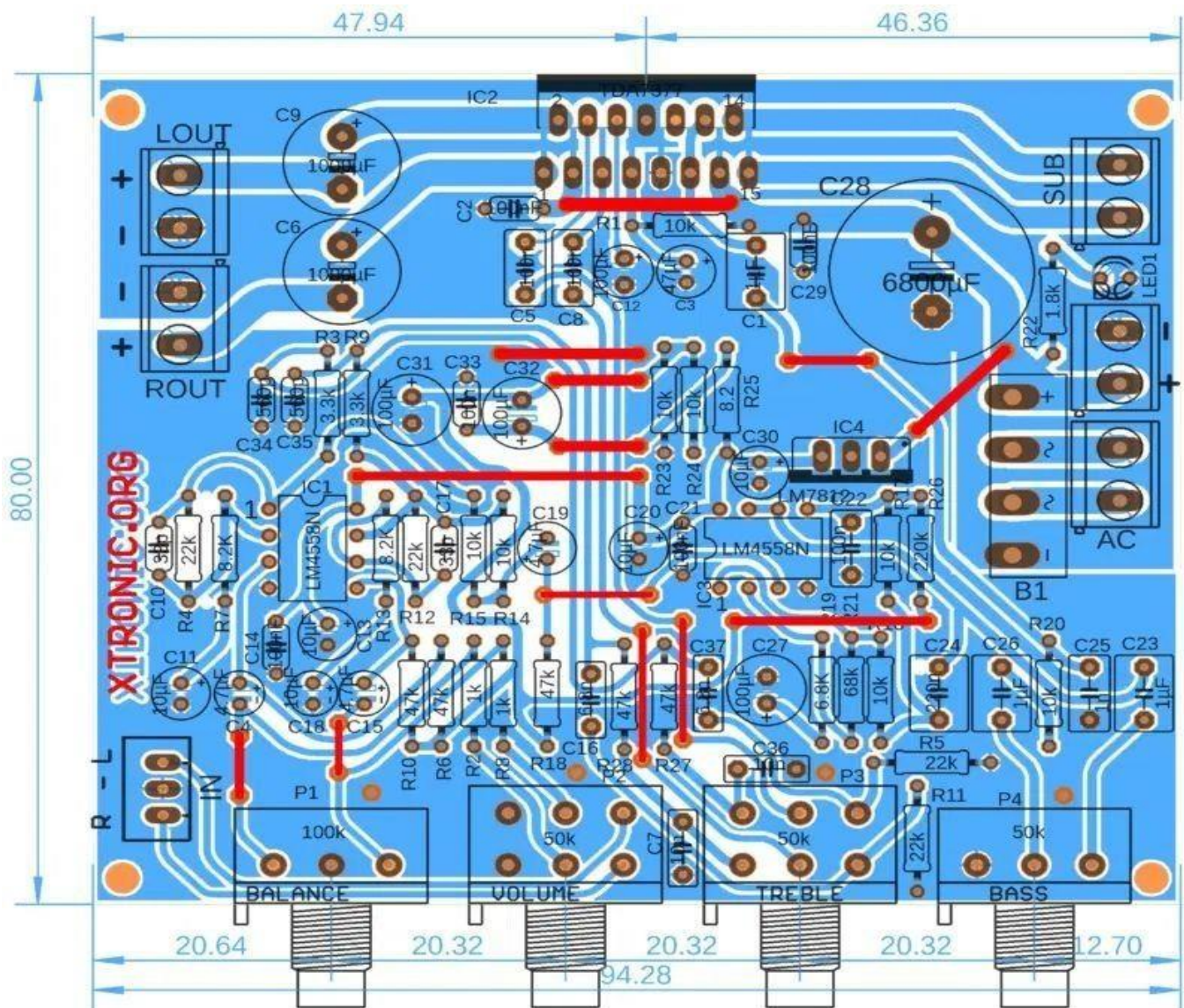




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Capacitors 1

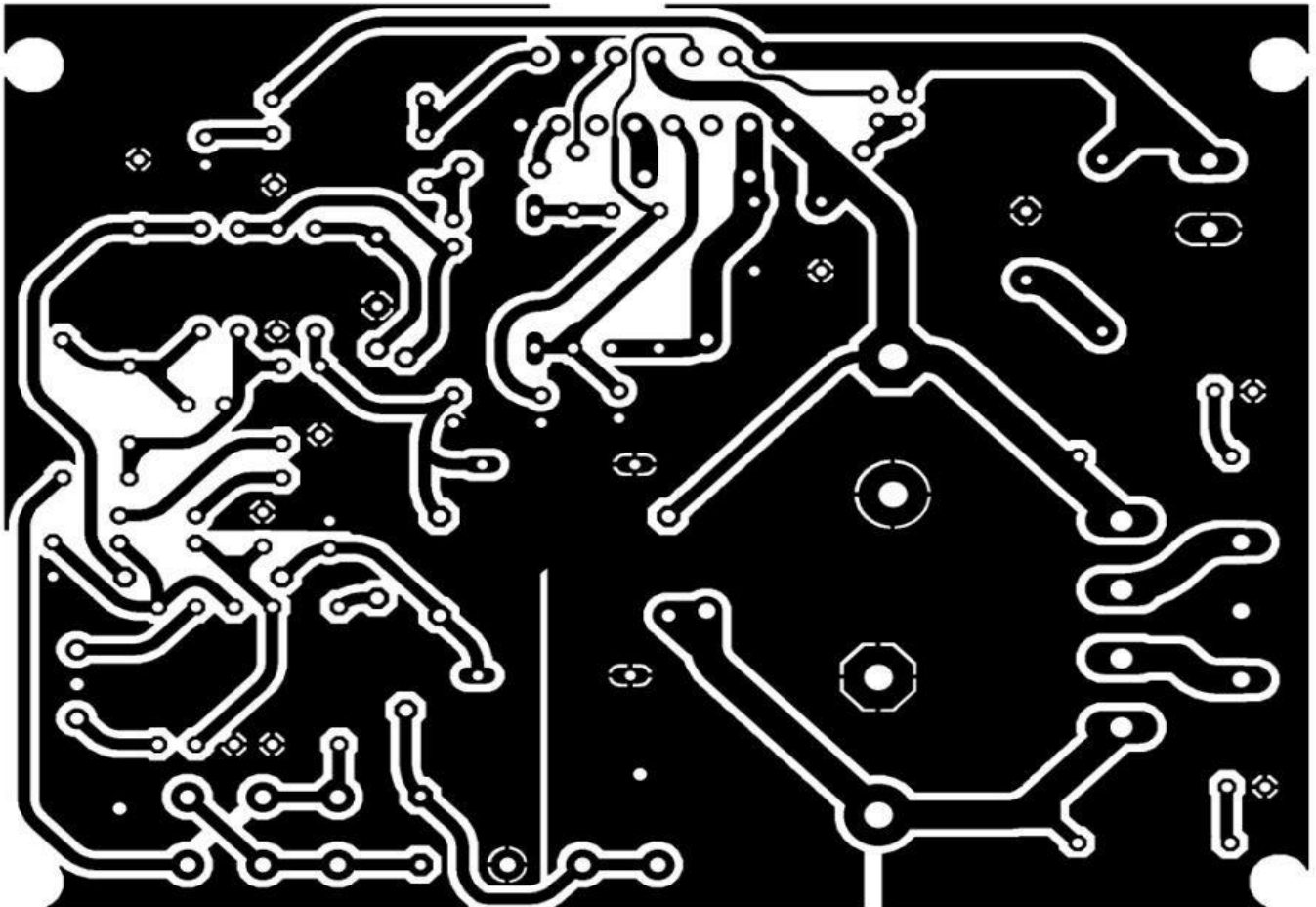
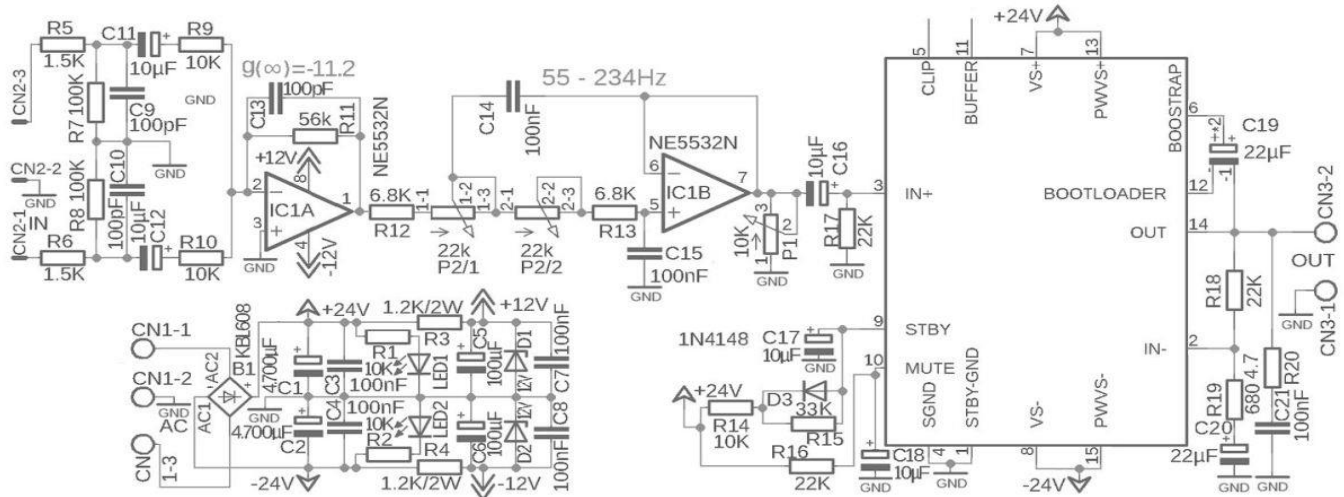
C1, C23, C26	1µF (105)
C2, C14, C21, C29	100nF (104)
C3	47µF/25V
C4, C15, C19	4.7µF/25V
C5, C8, C22, C33	100n (104)
C6, C9	1.000µF/25V
C7, C36	10n (103)
C10, C17	33p (330)
C11, C13, C18, C20,	10µF/25V
C30	100µF/25V
C12, C27, C31, C32	6.8n (682)
C16, C37	220n (224)
C24	1n (102)
C25	4.700µF a
C28	6.800µF/25V
C34, C35	560p (561)
IC1, IC3	LM4558 or TL072, or Ne5532, or equivalent

Resistors 1/4W

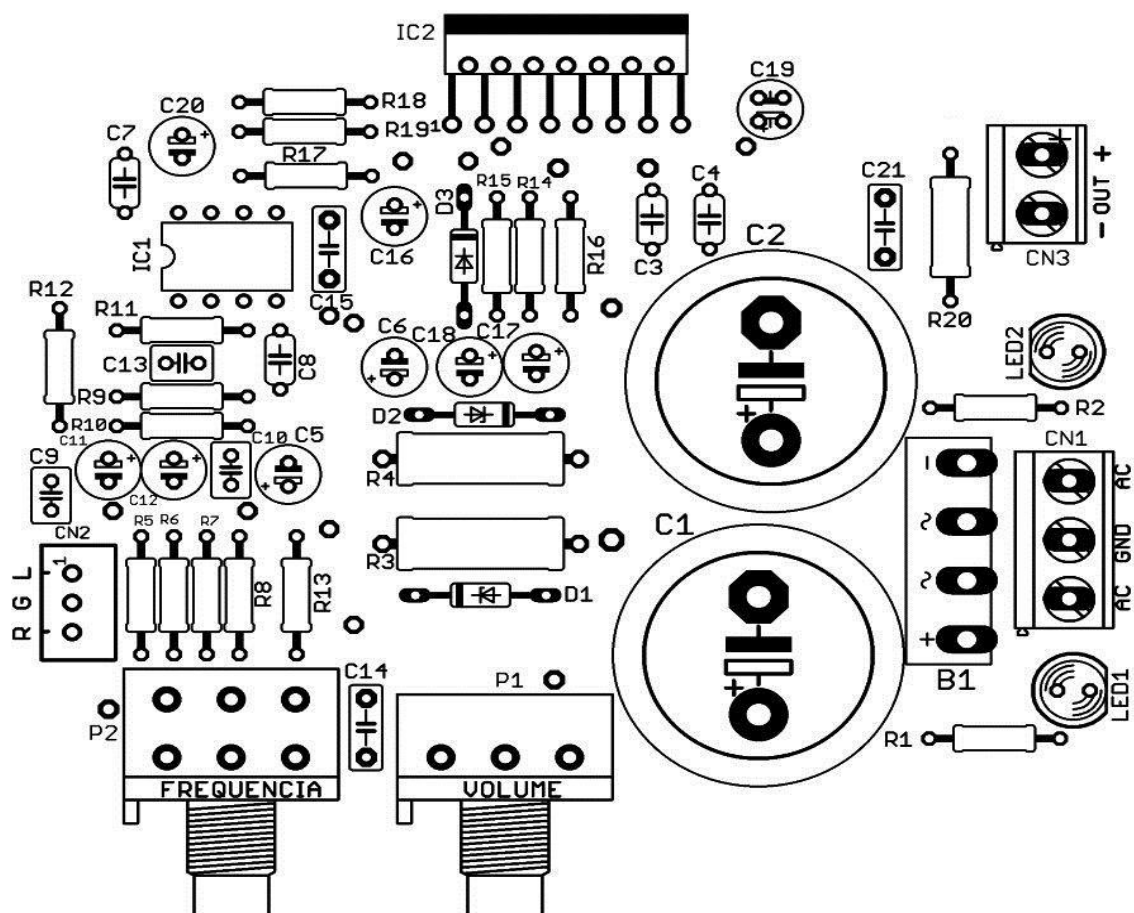
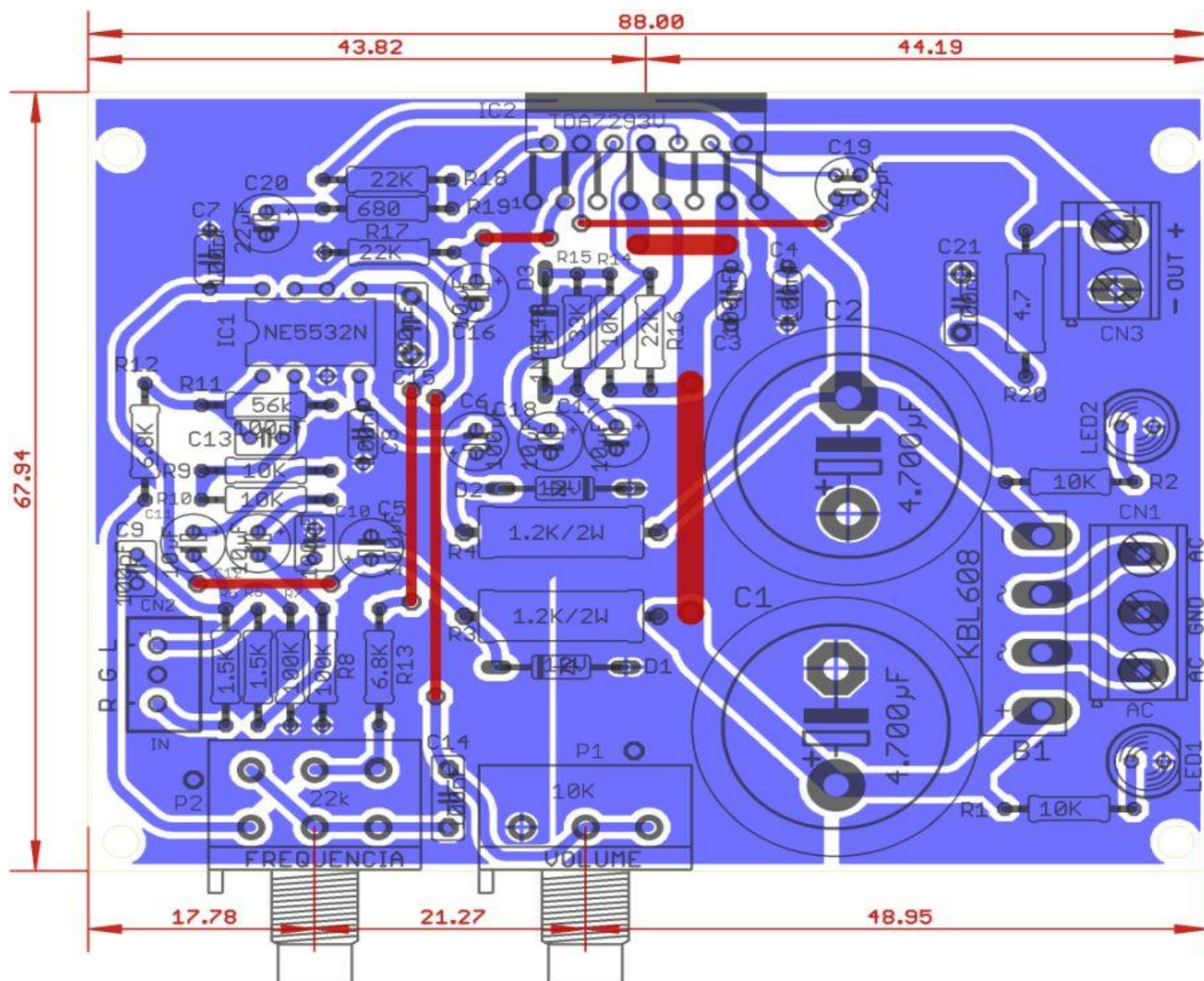
R1, R14, R15, R16, R17,	10k
R20, R23, R24	10k
R2, R8	1k
R3, R9	3.3k
R4, R5, R11, R12	22k
R6, R10, R18, R27,	47k
R28	47k
R7, R13	8.2K
R19	6.8K
R21	68k
R22	1.8k
R25	8.2
R26	220k

IC2	TDA7377 or TDA7375, or TDA7379, or STA540
IC4	LM7812
B1	KBL608 or equivalent
LED1	Green Led

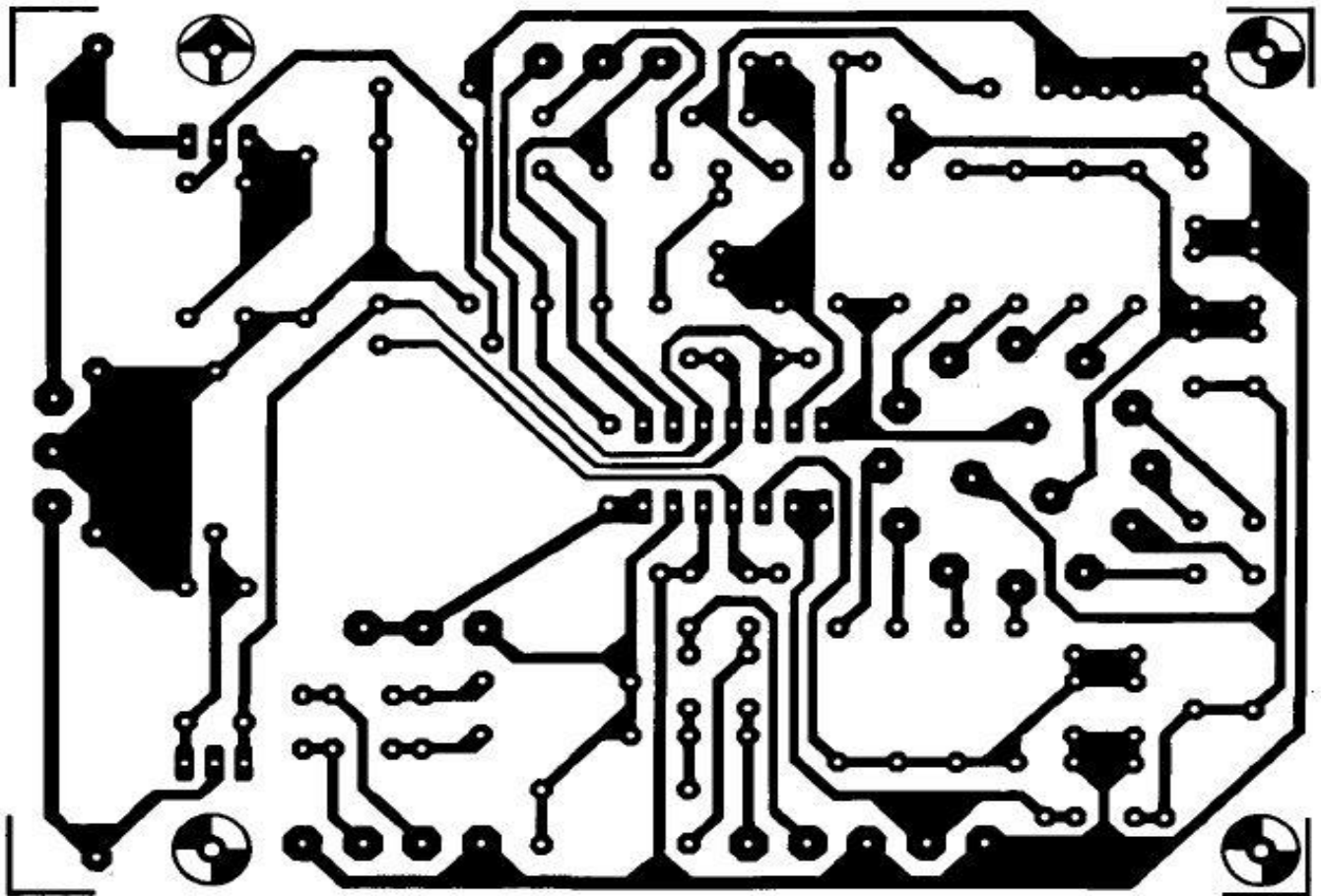
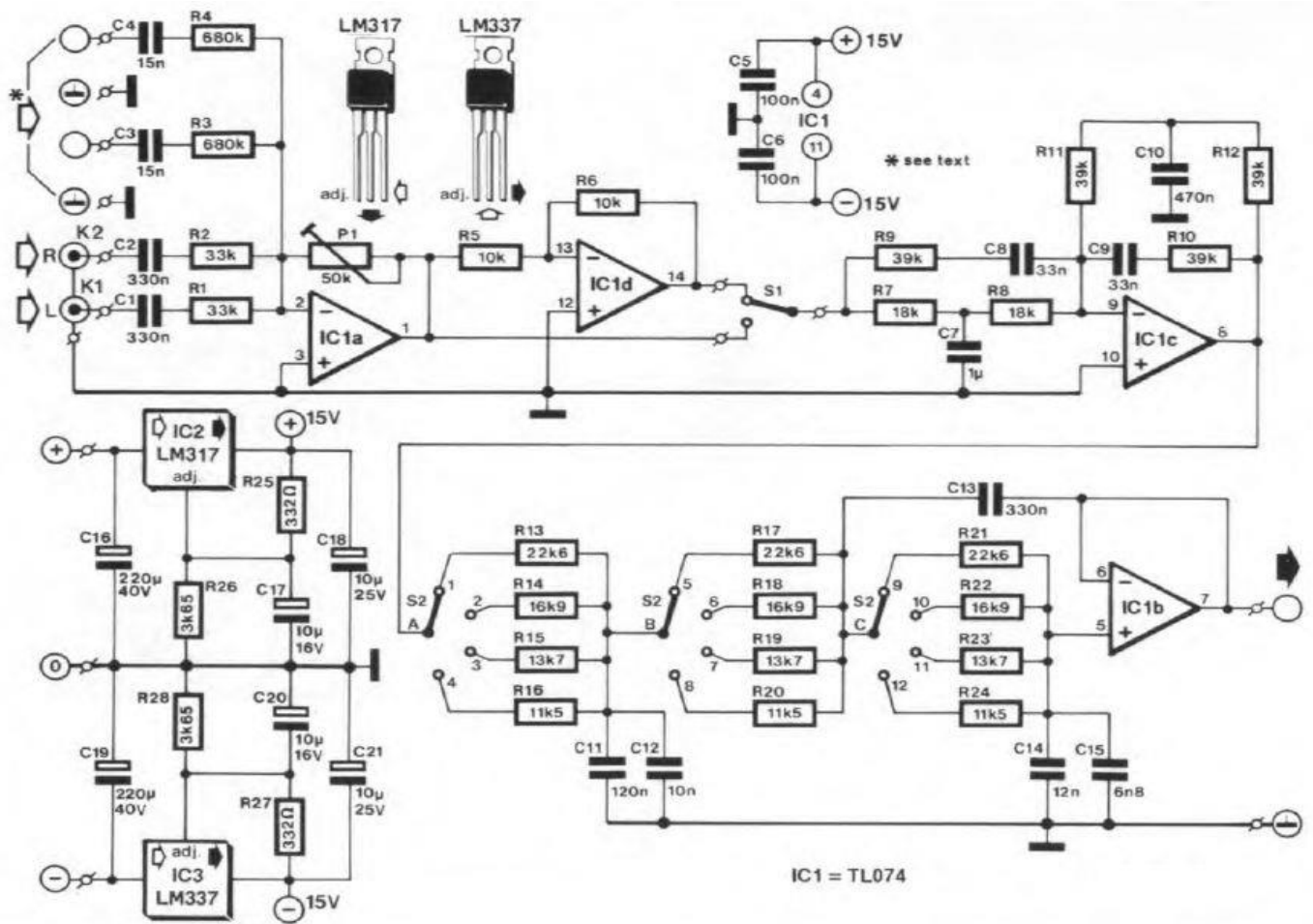
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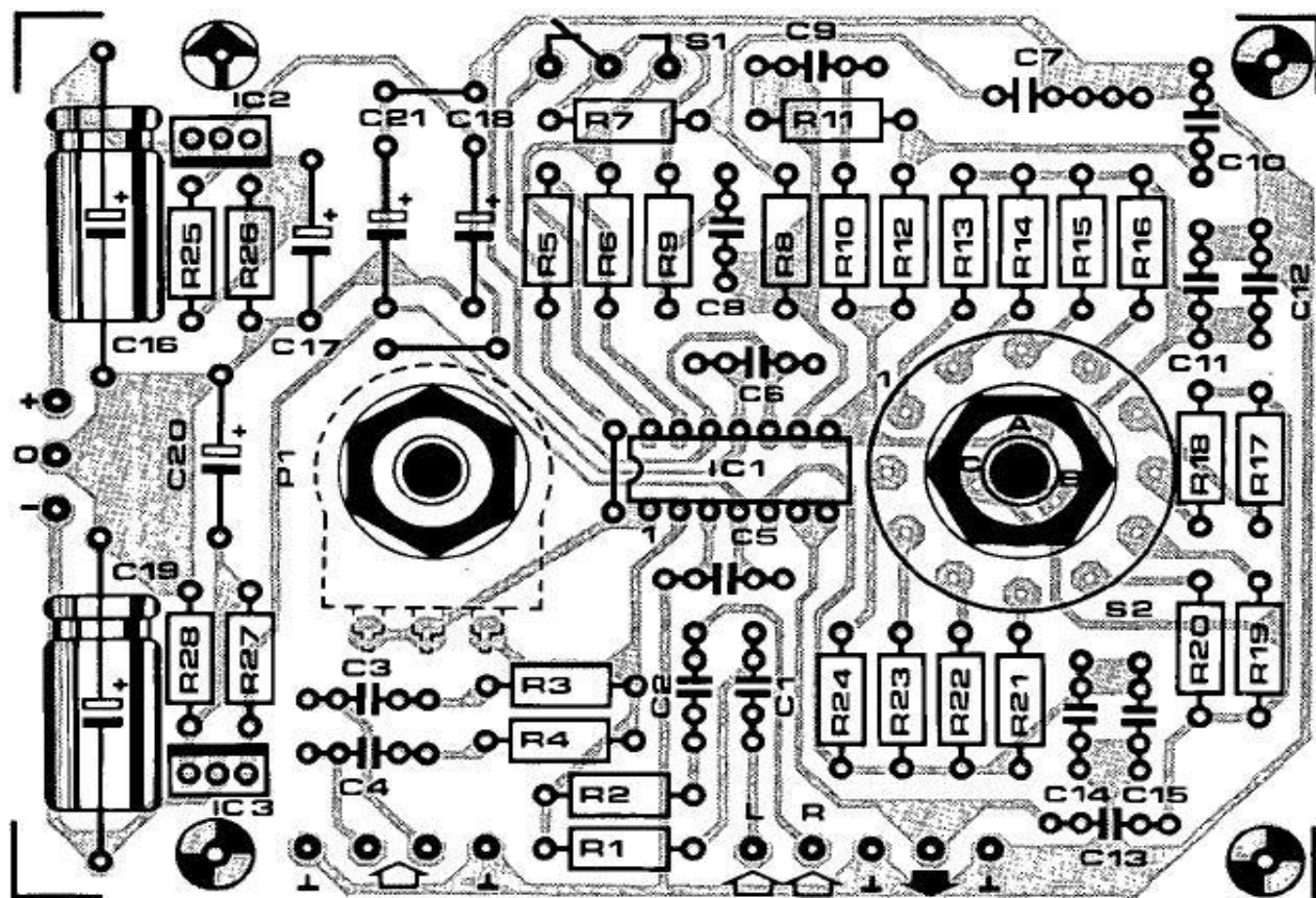


Resistores 1/4W 5%		CI	TDA7293	TDA7294	TDA7295	TDA7296
R1, R2, R9, R10, R14	10K	Potência máxima	100W	80W	60W	50W
R3, R4	1.2K / 2W	Tensão máxima em 4 Ohms*	33 VDC	30 VDC	26 VDC	22 VDC
R5, R6	1.5K	Tensão máxima em 8 Ohms*	40 VDC	38 VDC	35 VDC	30 VDC
R7, R8	100K	Semicondutores				
R11	56k	D1, D2	1N5242 ou equivalente			
R12, R13	6.8K	D3	1N4148			
R15	33K	IC1	NE5532 ou TL072, ou equivalente			
R16, R17, R18	22K		TDA7294, ou tda7293, ou tda7295, ou tda7296			
R19	680	IC2	KBL608			
R20	4.7 / 0,5W	B1	Led 5 mm			
Capacitores		LED1, LED2	Diversos			
P1	10K	CN1	AC			
P2	22k	CN2	IN			
C1, C2	4.700µF/63V	CN3	OUT			
C3, C4, C7, C8, C14, C15, C21	100nF	Para saber qual Trafo utilizar para uma tensão de +/-28V				
C5, C6	100µF/63V	28=(1,4xVi)-0,5 = 1,4Vi=28-0,5 = Vi =27,5/1,4 = 19,64VAC.				
C9, C10, C13	100pF	Só escolher o valor comercial próximo.				
C11, C12, C16, C17, C18	10µF/63V					
C19, C20	22µF/63V					



odyo ampli surround subwoofer 100w 01-01





Resistors:

R1, R2 = 33 k

R3, R4 = 680 k

R5, R6 = 10 k

R7, R8 = 18 k

R9-E12 = 39 k

R13, R17, R21 = 22k6; 1%

R14, R18, R22 = 16k9; 1%

R15, R19, R23 = 13k7; 1%

R16, R20, R24 = 11k5; 1%

R25, R27 = 332 R; 1%

R26, R28 = 3k65; 1%

P1 = 50 k preset

Capacitors:

C1, C2, C13 = 330 nF

C3, C4 = 15 nF

C5, C6 = 100 nF

C7 = 1 μ F

C8, C9 = 33 nF

C10 = 470 nF

C11 = 120 nF

C12 = 10 nF

C14 = 12 nF

C15 = 6n8

C16, C19 = 220 μ F; 40 V

C17, C20 = 10 μ F; 16 V

C18, C21 = 10 μ F; 25 V

Semiconductors:

IC1 = TL074

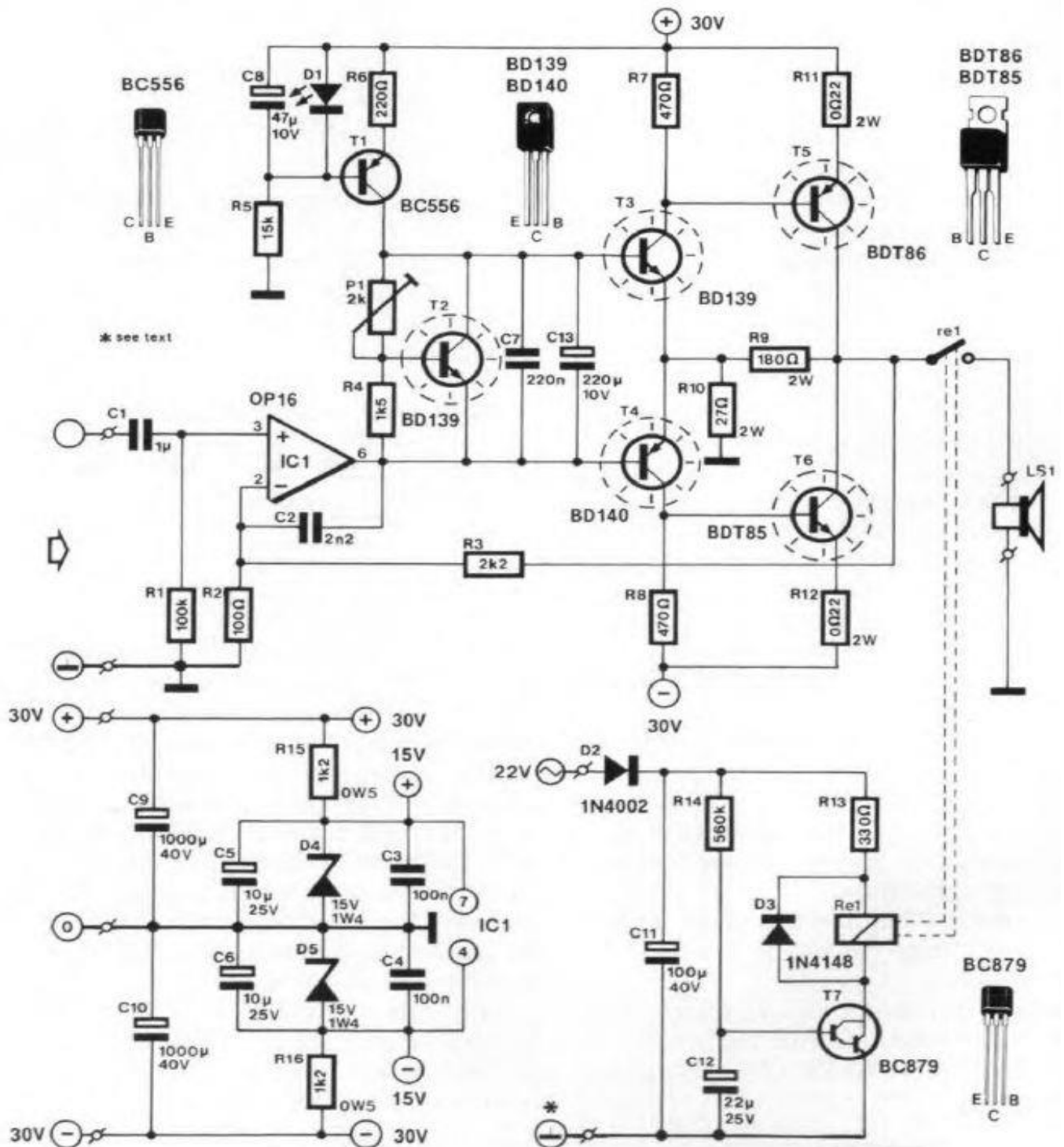
IC2 = LM317

IC3 = LM337

Miscellaneous:

S1 = toggle switch, 1 change-over

S2 = rotary switch, 3-pole, 4-position



Resistors:

R1 = 100 k Ω
 R2 = 100 Ω
 R3 = 2k Ω
 R4 = 1k Ω
 R5 = 15 k Ω
 R6 = 220 Ω
 R7, R8 = 470 Ω
 R9 = 180 Ω ; 2.5 W
 R10 = 27 Ω ; 2.5 W
 R11, R12 = 0.22 Ω ; 5 W
 R13 = 330 Ω ; 1 W
 R14 = 560 Ω
 R15, R16 = 1k Ω ; 0.5 W
 P1 = 2 k Ω : multi-turn preset: top adjust

Capacitors:

C1 = 1 μ F
 C2 = 2n2
 C3, C4 = 100 nF
 C5, C6 = 10 μ F; 25 V
 C7 = 220 nF
 C8 = 47 μ F; 10 V

C9, C10 = 1000 μ F; 40 V

C11 = 100 μ F; 40 V

C12 = 22 μ F; 25 V

C13 = 220 μ F; 10 V; radial

Semiconductors:

D1 = 3 mm LED; red; high efficiency

D2 = 1N4002

D3 = 1N4148

D4, D5 = zener diode 15 V; 1.4 W

T1 = BC556

T2, T3 = BD139

T4 = BD140

T5 = BDT86 or BD912

T6 = BDT 85 or BD911

T7 = BC879

IC1 = OP16

Miscellaneous:

Re1 = relay; 24 V; 1 change-over

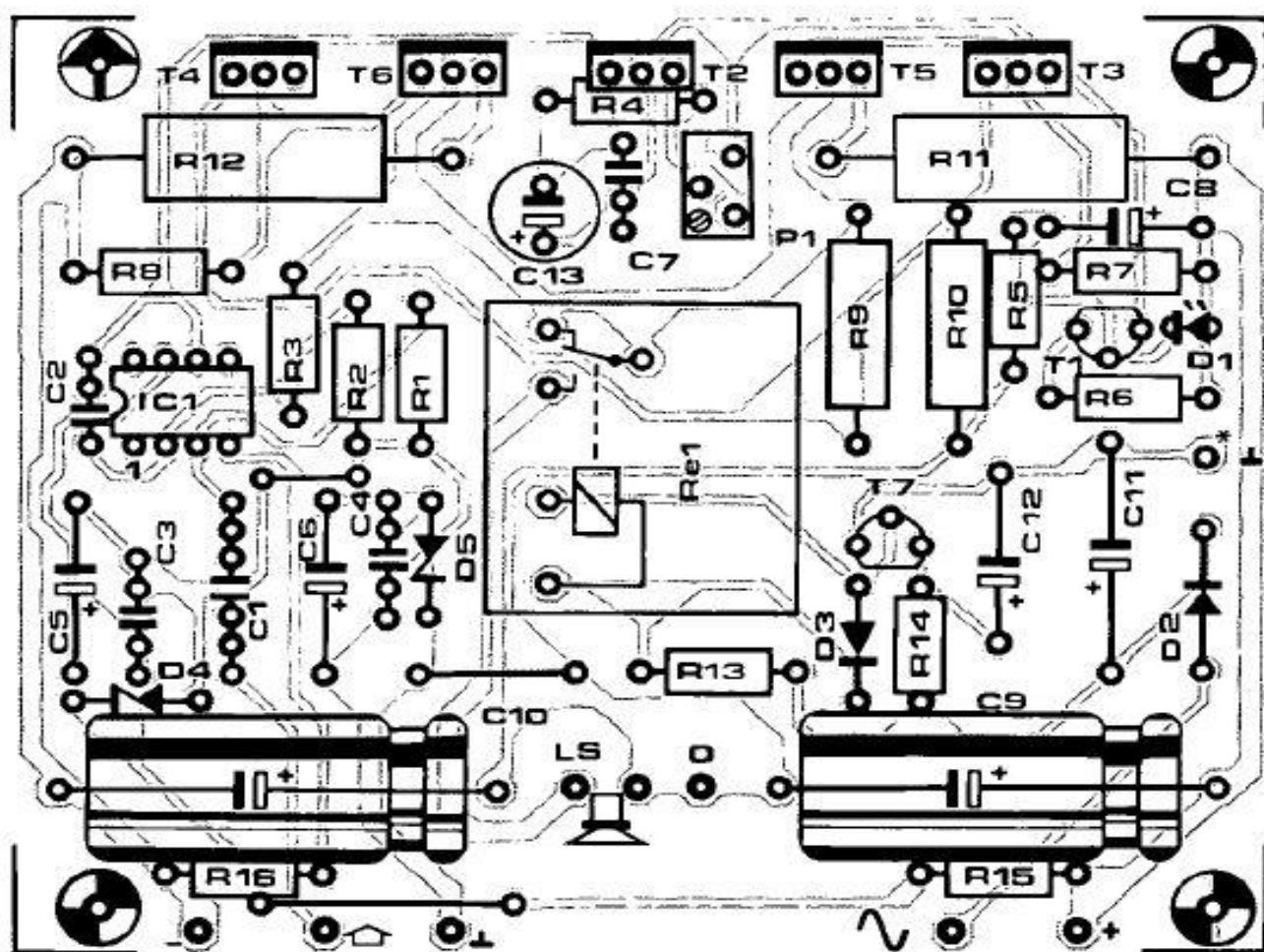
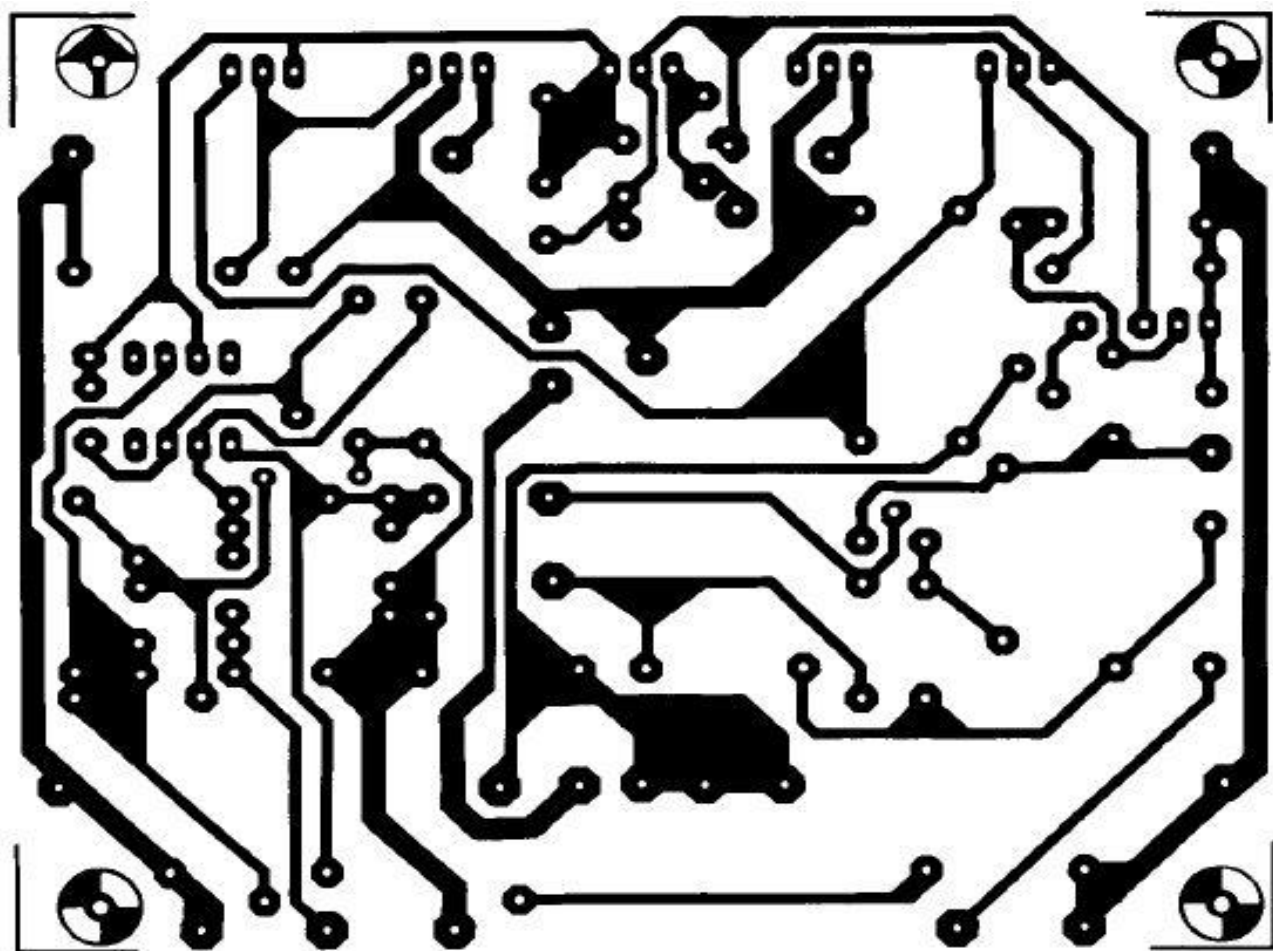
Mains transformer,

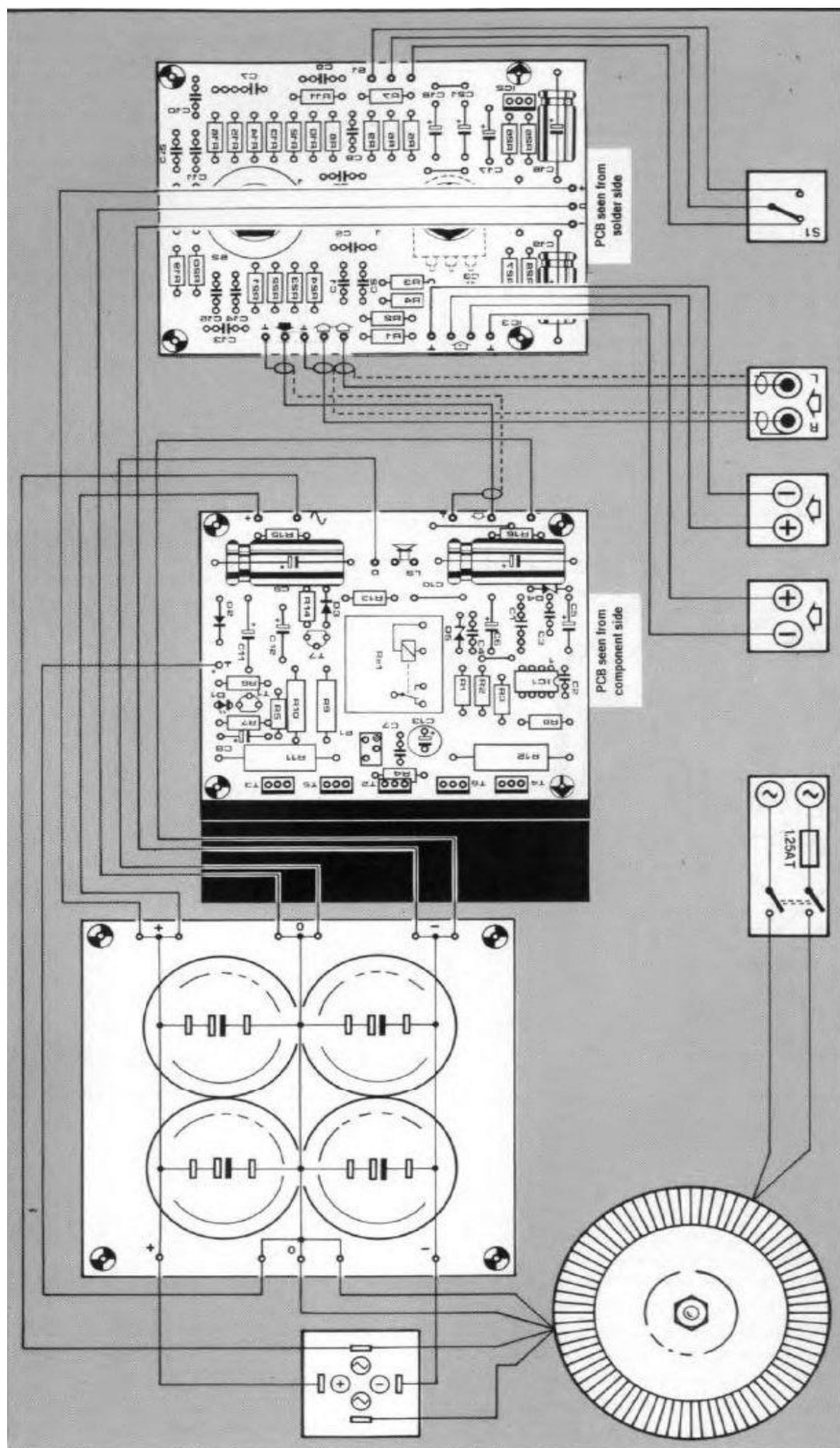
secondary 2x22 V, 2.7 A

4 electrolytic capacitors 10 000 μ F; 40 V

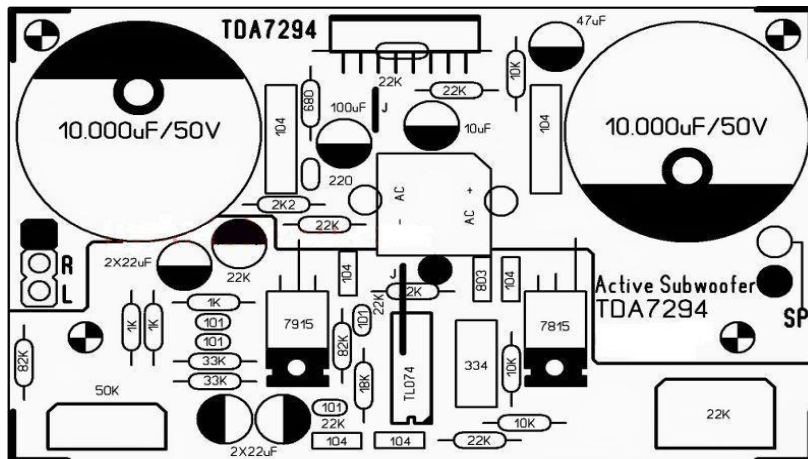
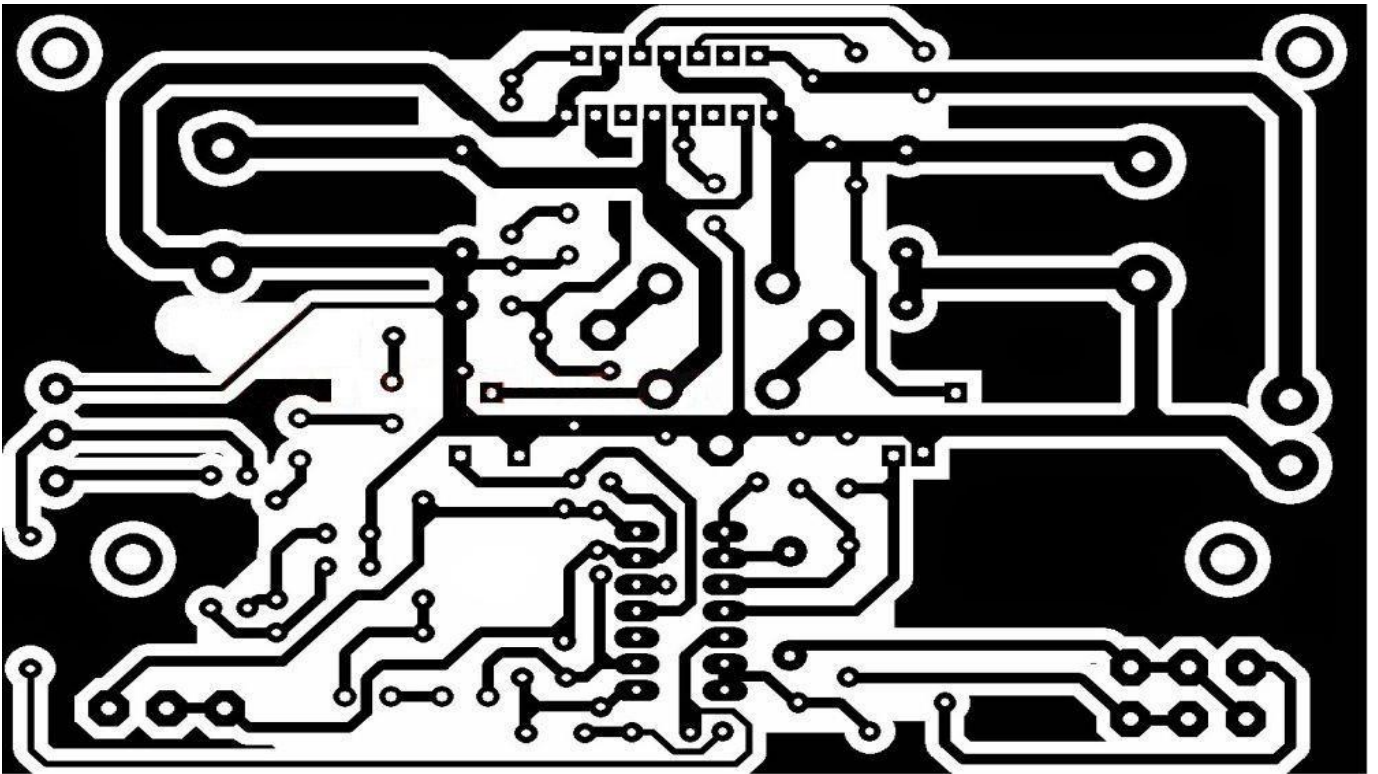
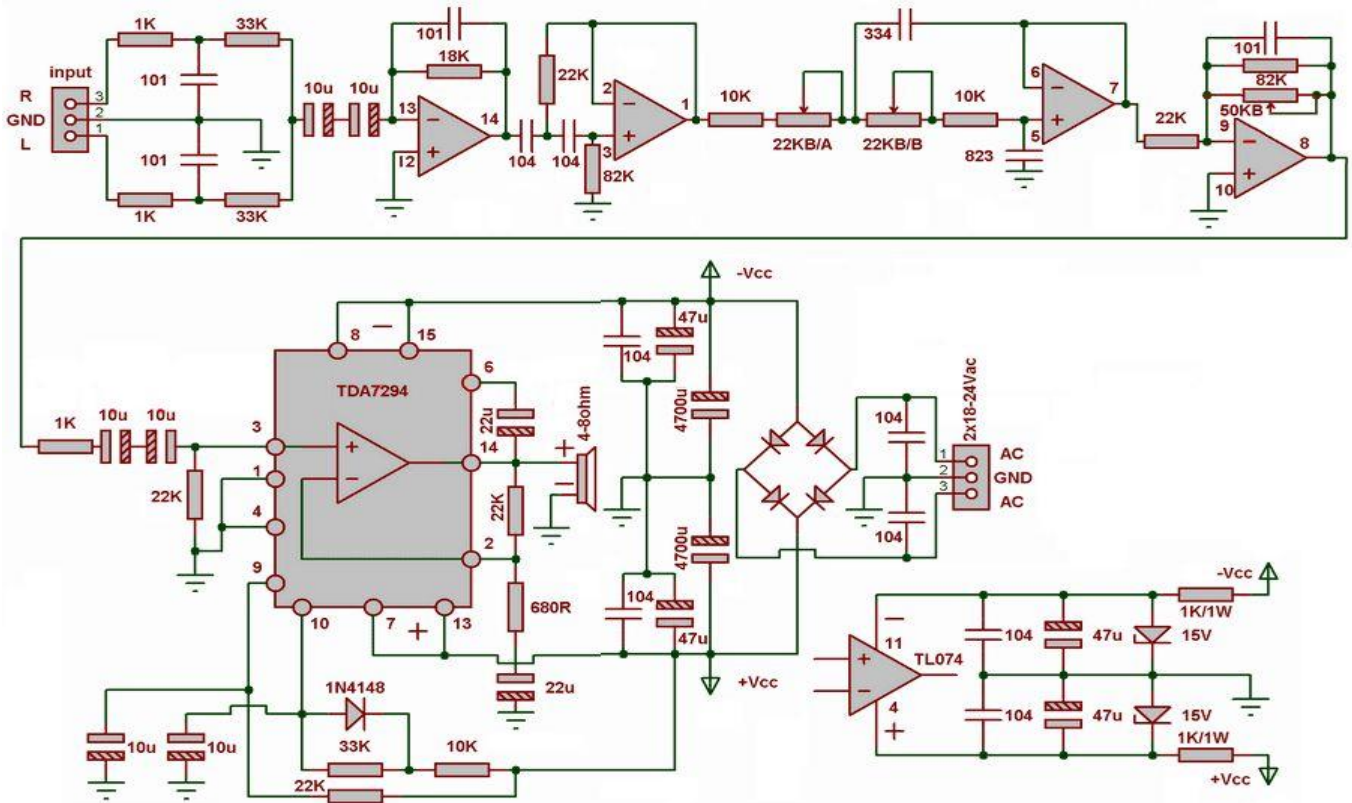
Bridge rectifier B80C5000/3300

PCB Type 900122-2



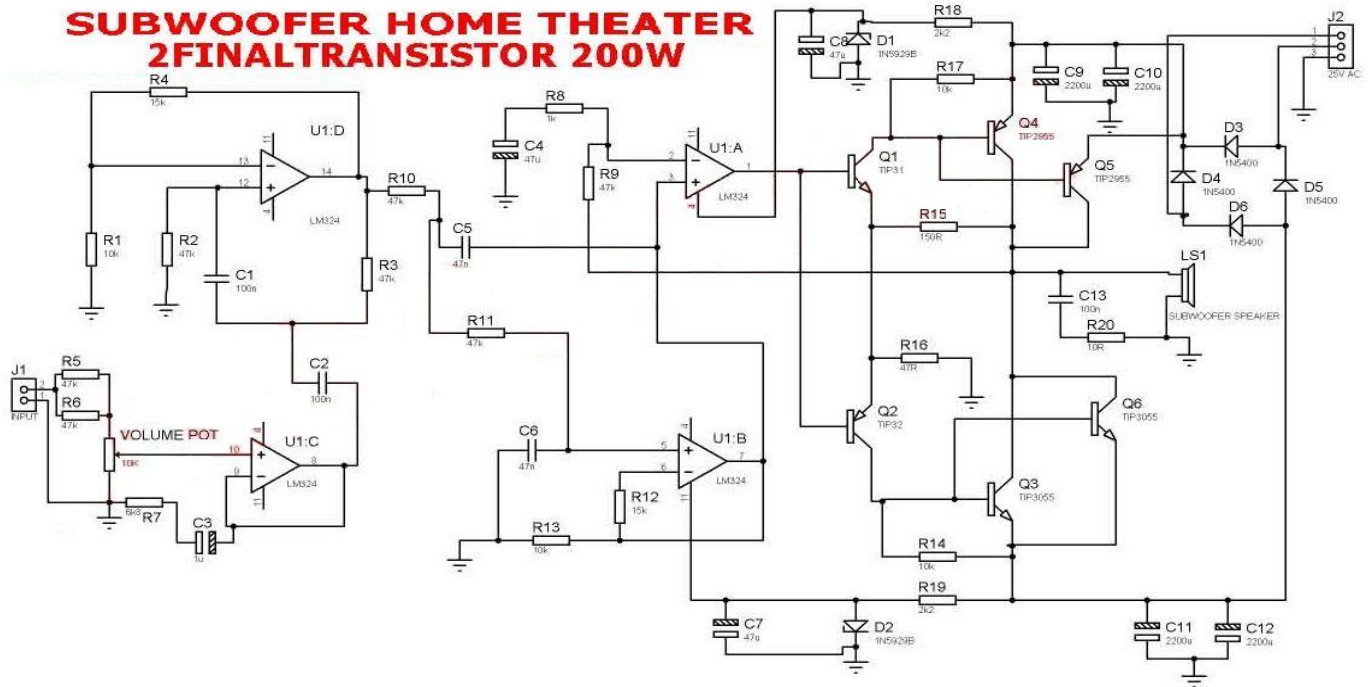


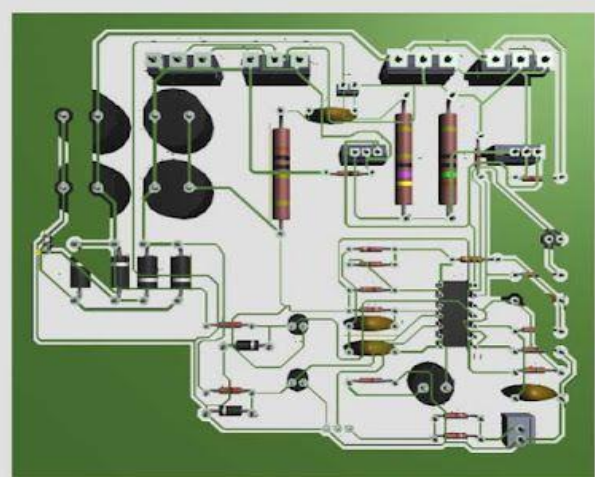
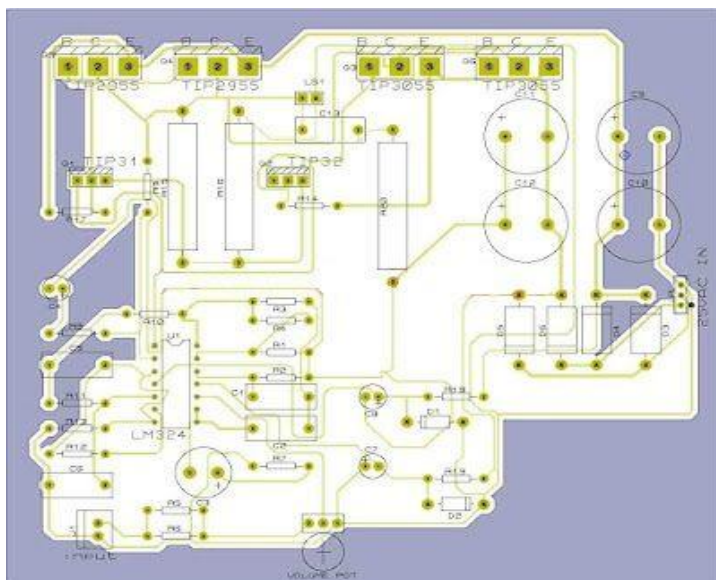
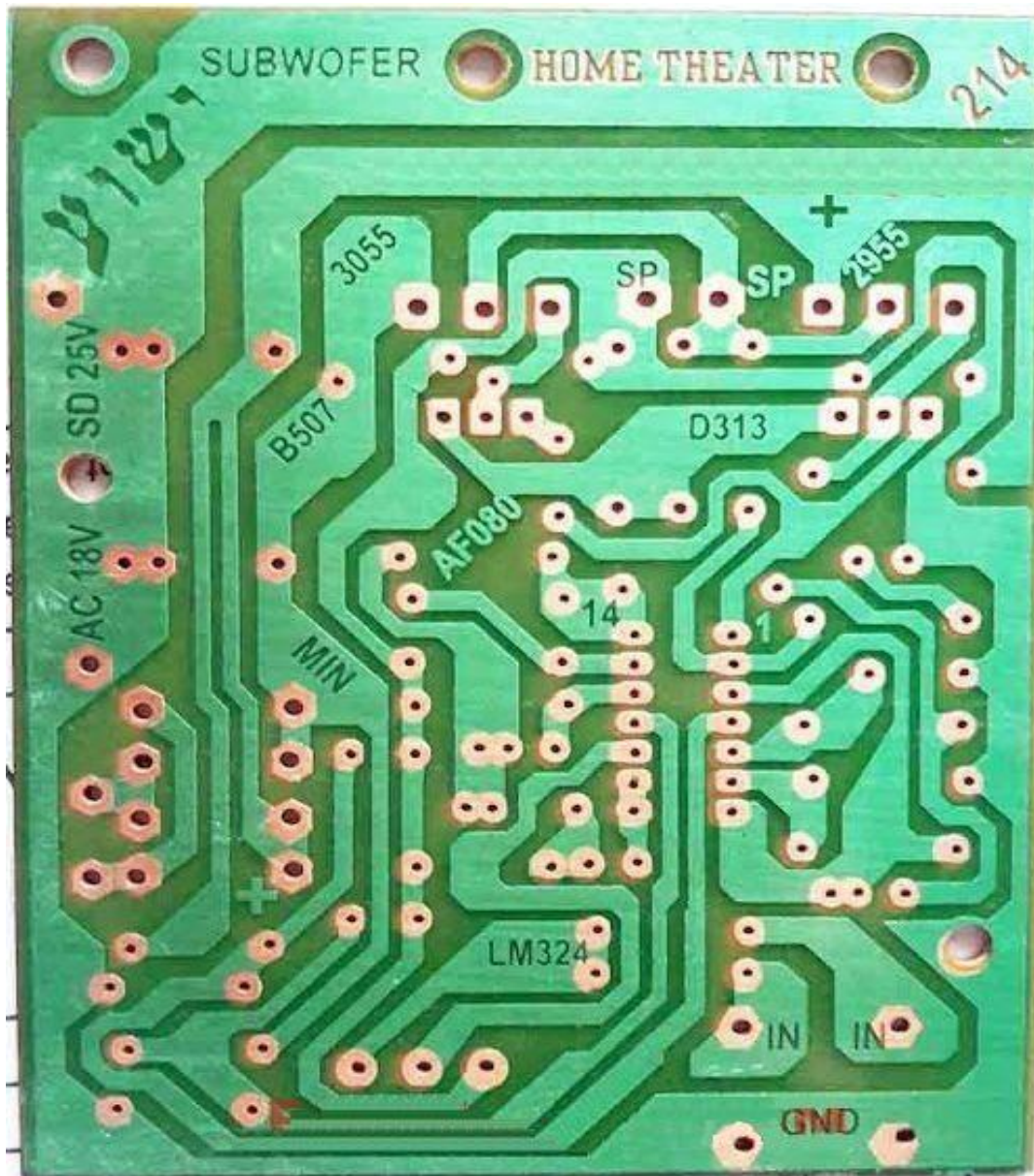
odyo ampli surround subwoofer 100w 02-01 tda7294

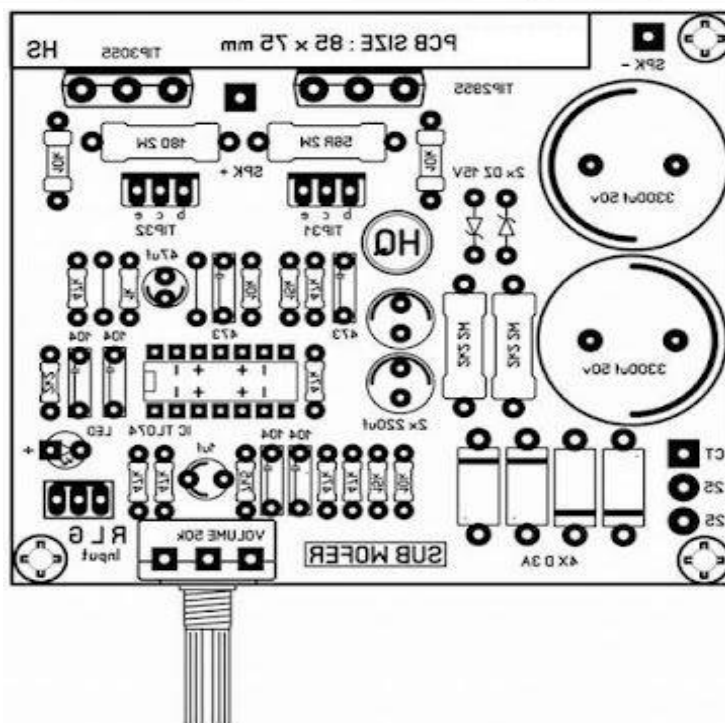
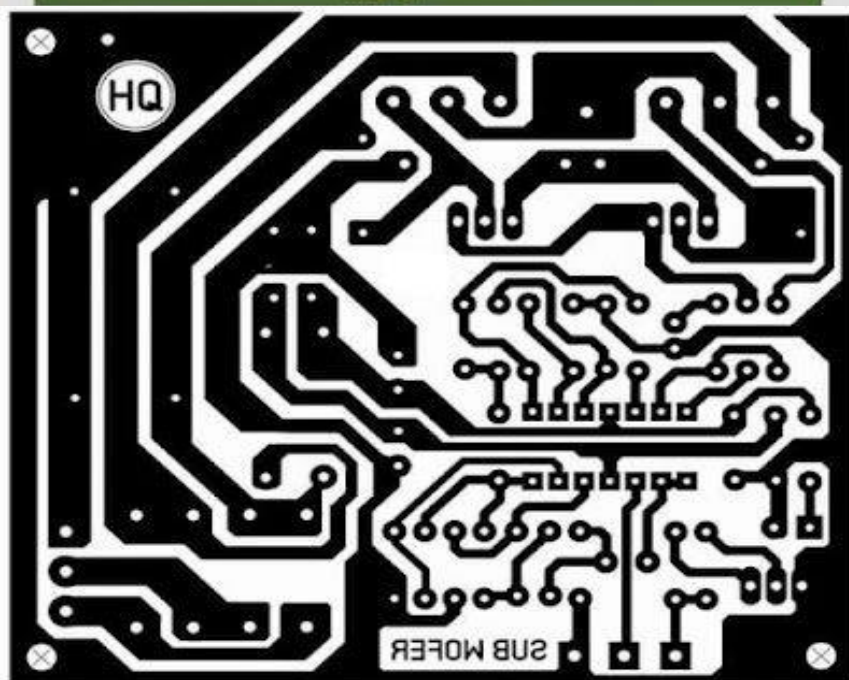


odyo ampli surround subwoofer 200w 01-01

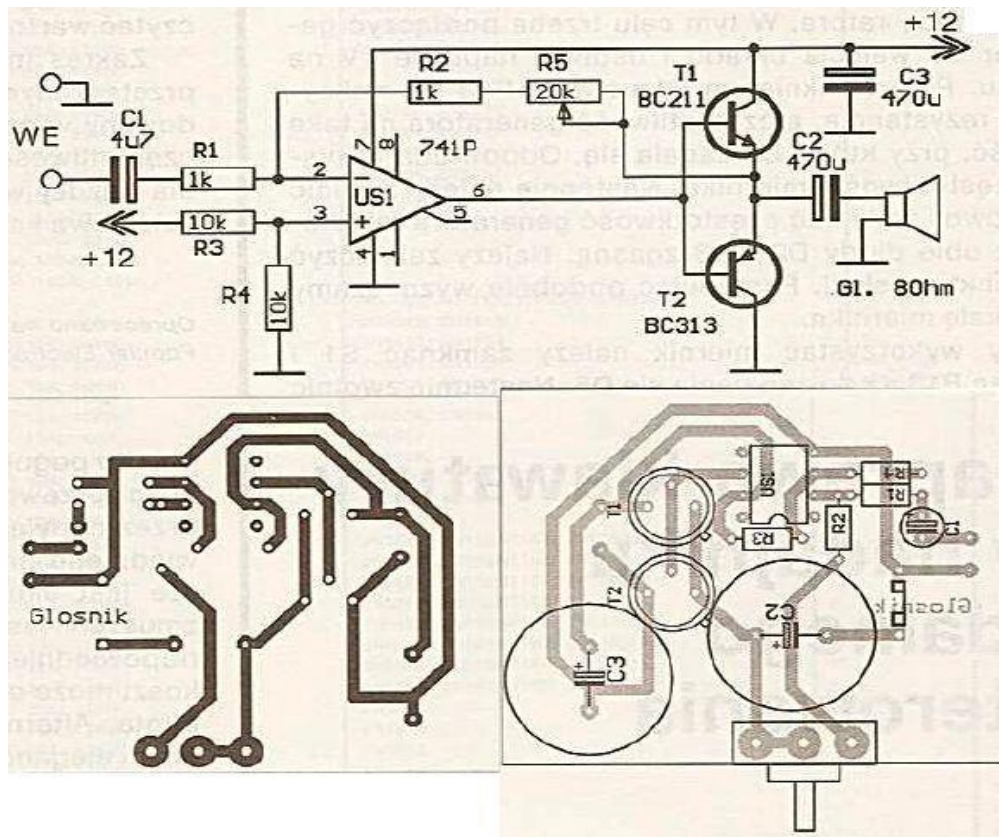
SUBWOOFER HOME THEATER 2FINALTRANSISTOR 200W



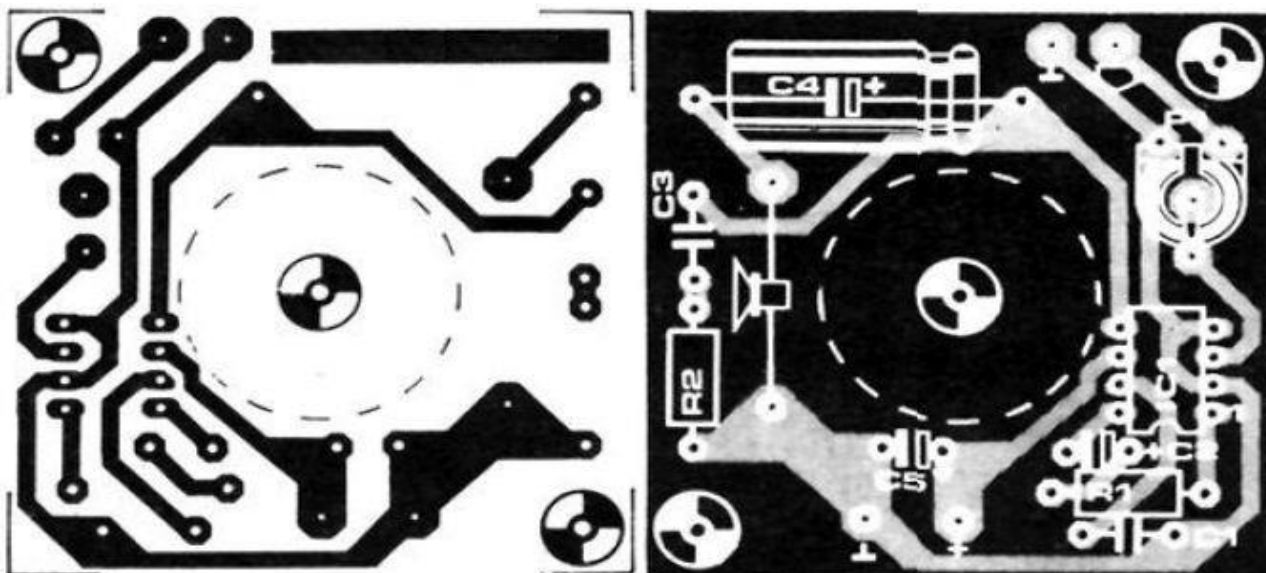
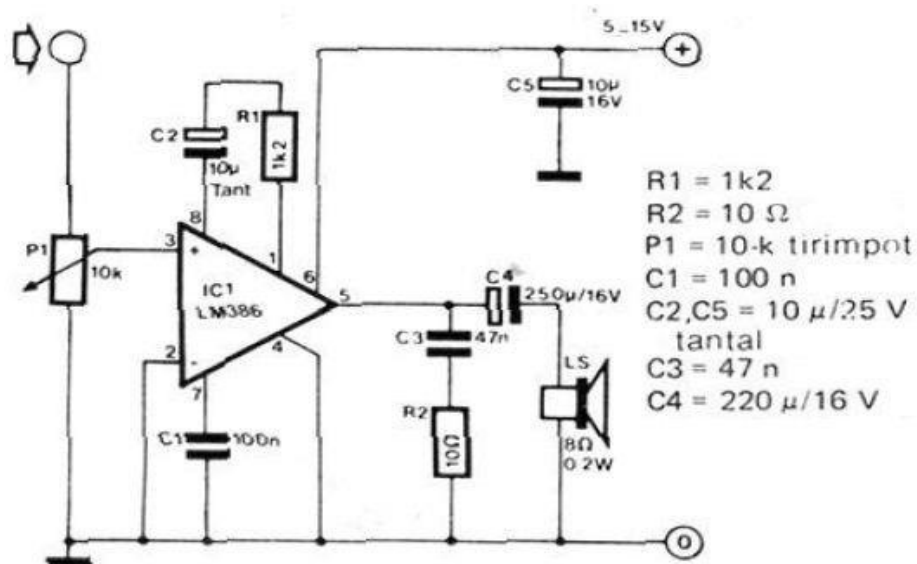




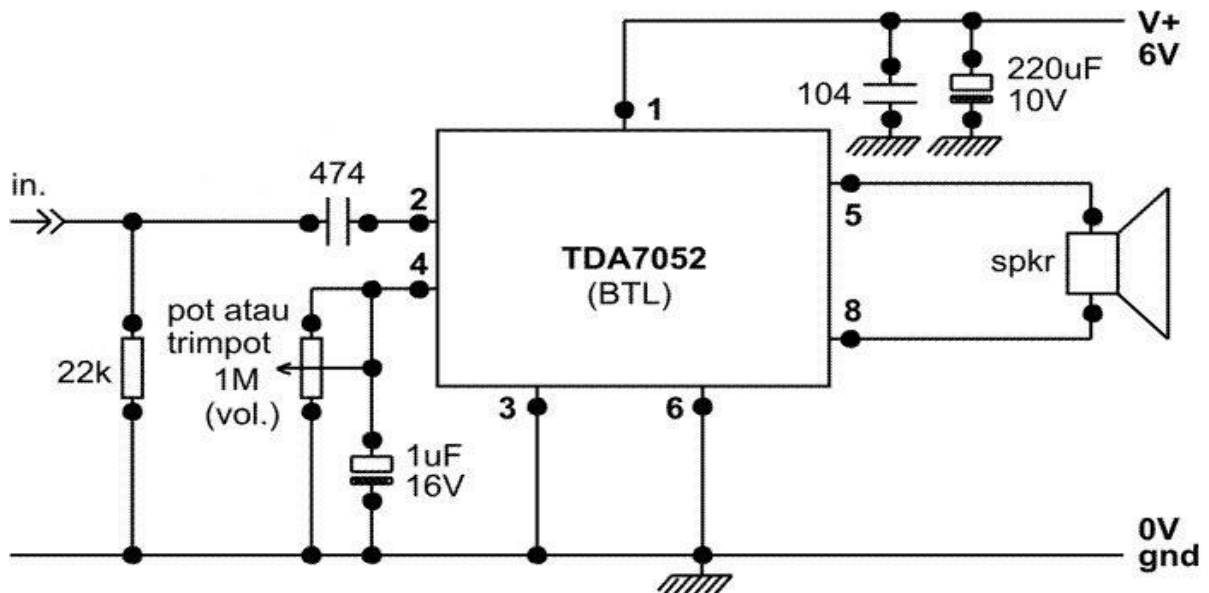
odyo ampli 0,5w 01-01 741



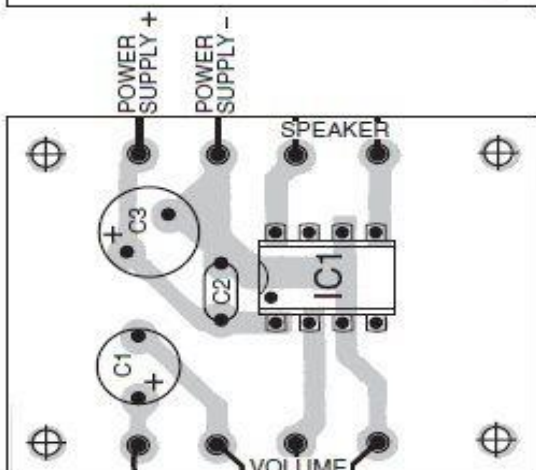
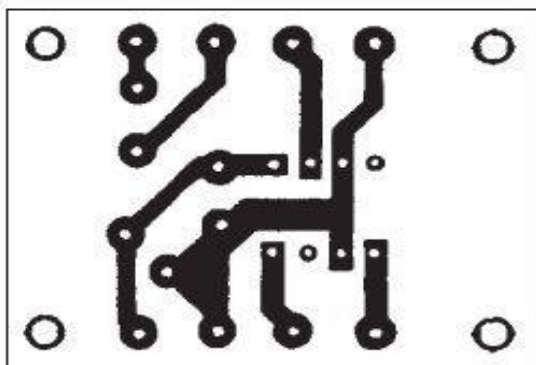
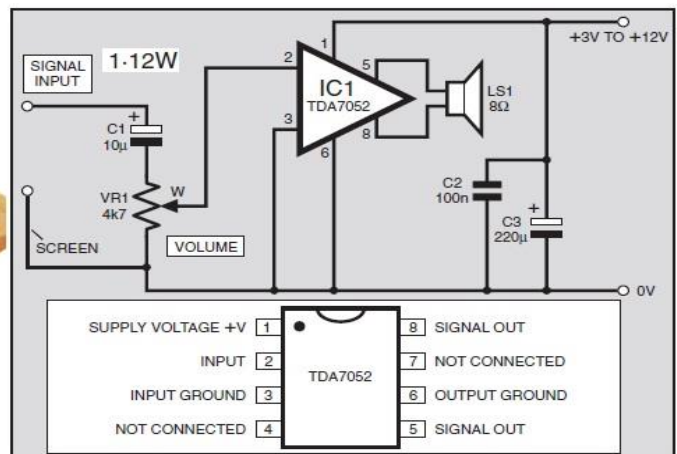
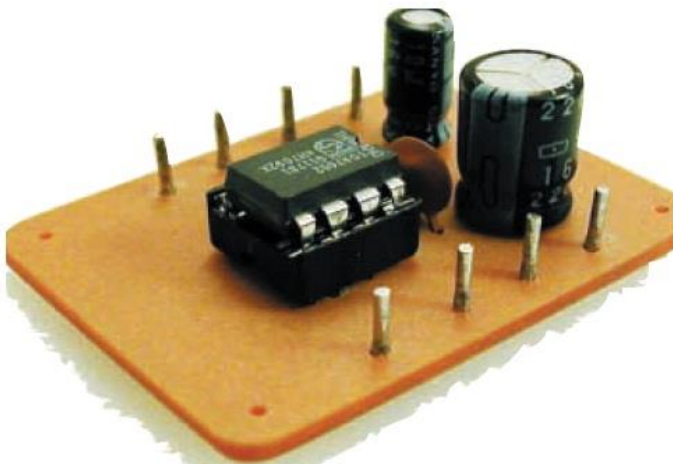
odyo ampli 0,5w 02-01 lm386



odyo ampli 1,2w 01-01 tda7052



odyo ampli 1,2w 02-01 tda7052



COMPONENTS

TDA7052 AMPLIFIER

Capacitors

- C1 10 μ radial elect. 25V
- C2 100n disc ceramic
- C3 220 μ radial elect. 25V

Potentiometers

- VR1 4k7 min. rotary carbon, log.

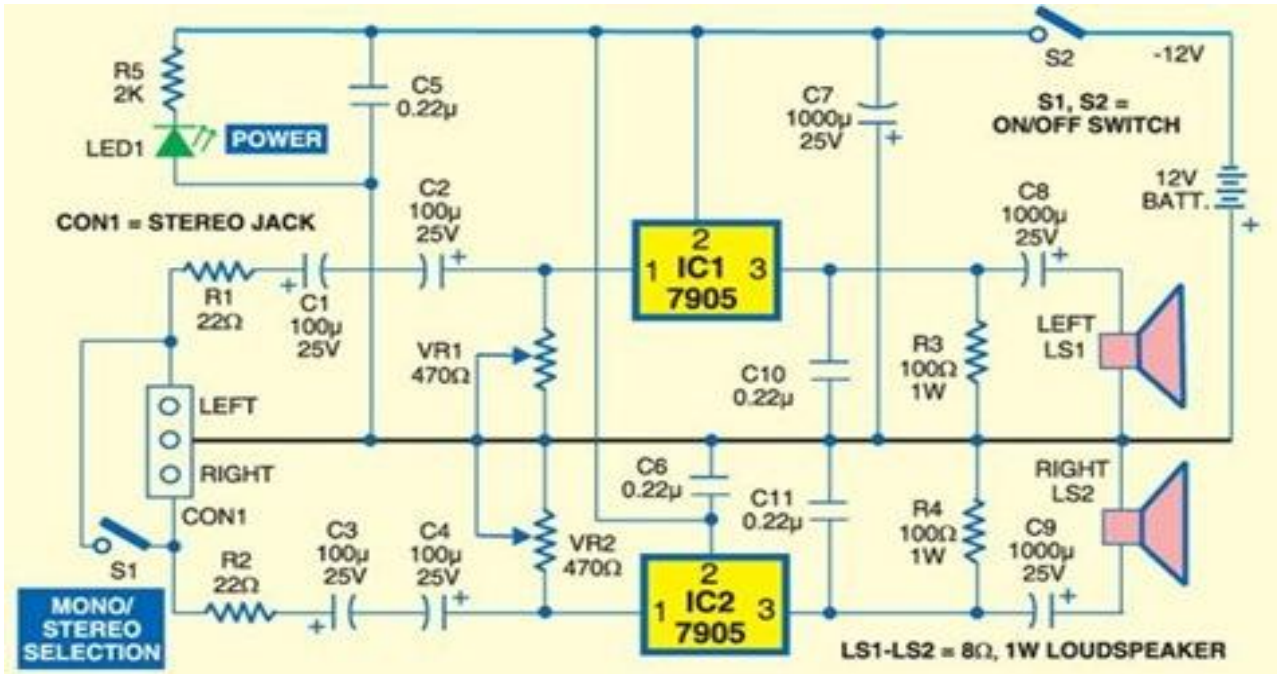
Semiconductor

- IC1 TDA7052 power amp i.c.

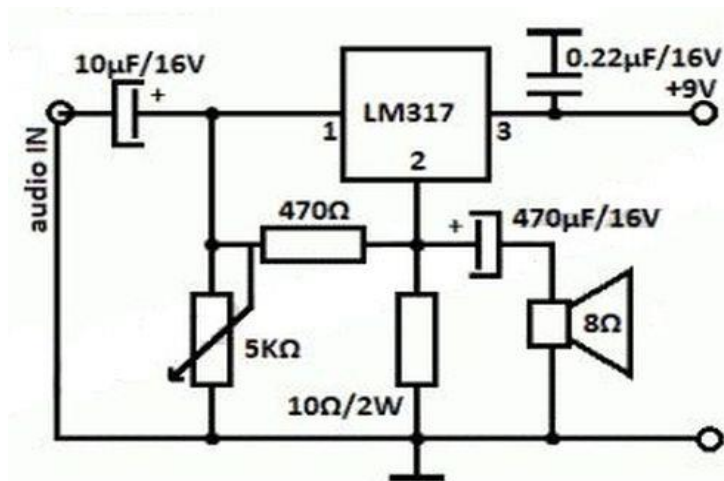
Miscellaneous

- LS1 4 to 32 ohm loudspeaker

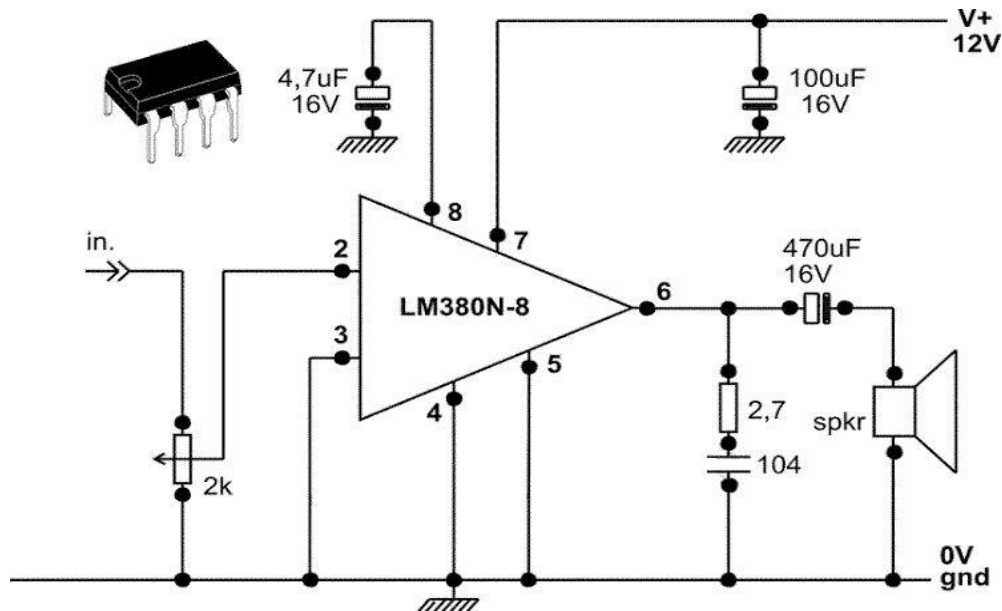
odyo ampli 1w 01-01 7905



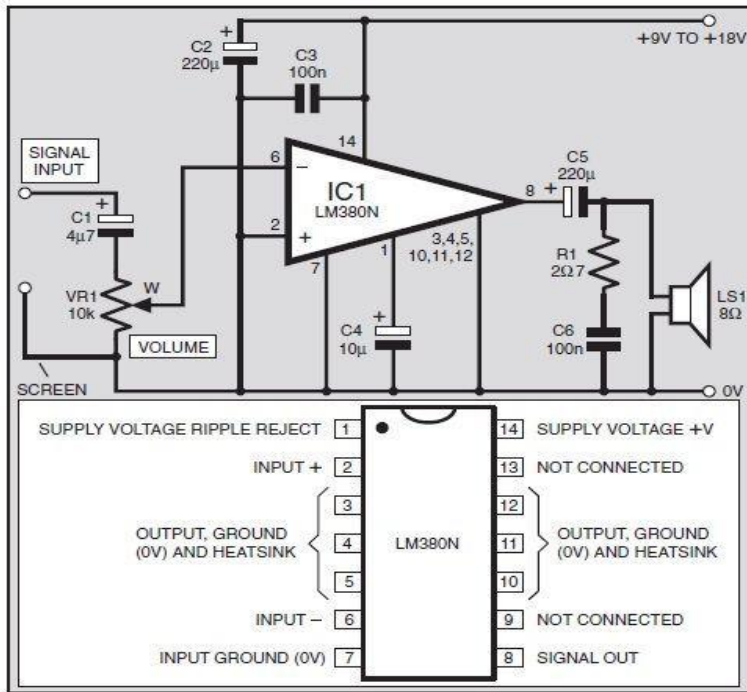
odyo ampli 1w 02-01 lm317



odyo ampli 1w 03-01 lm380



odyo ampli 1w 04-01 lm380



COMPONENTS

LM380N AMPLIFIER

Resistors

R1 2Ω 0.25W 5% carbon film

Potentiometers

VR1 10k rotary carbon, log.

Capacitors

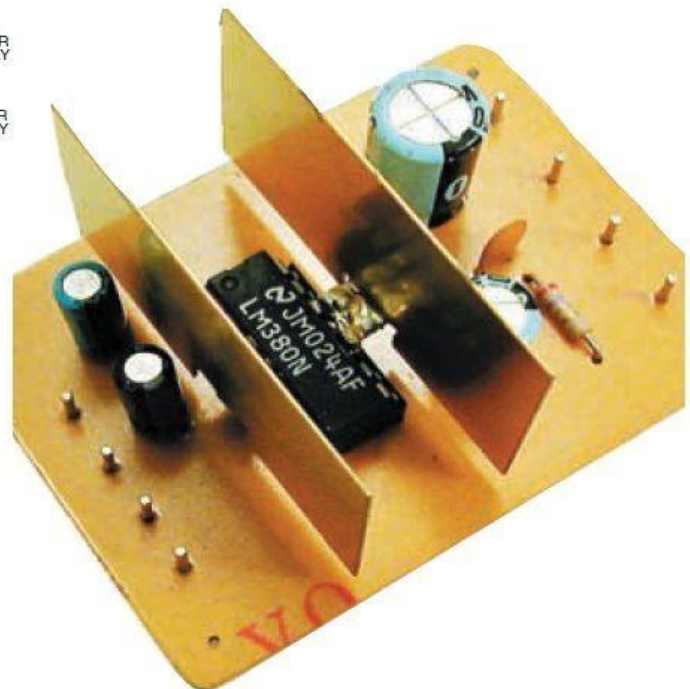
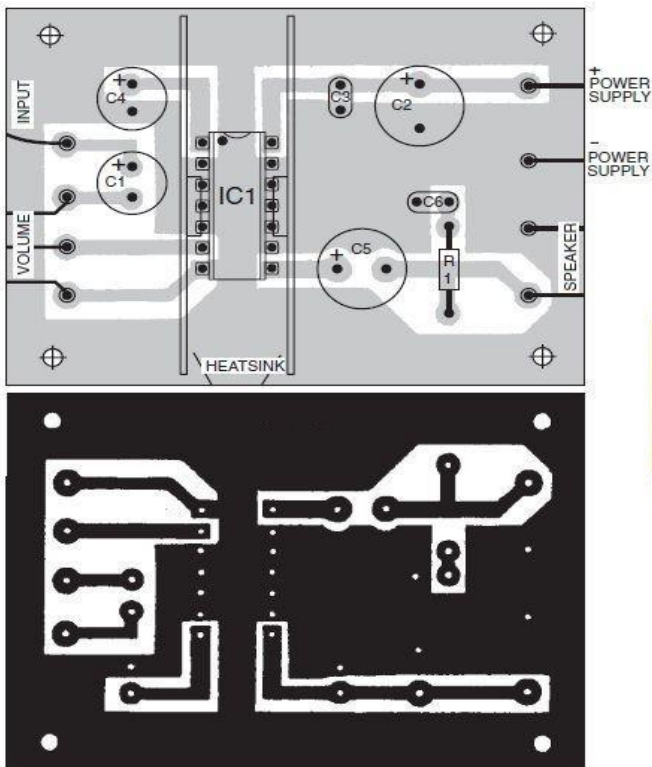
C1 4μF radial elect. 50V
C2, C5 220μF radial elect. 50V (2 off)
C3, C6 100nF disc ceramic (2 off)
C4 10μF radial elect. 50V

Semiconductor

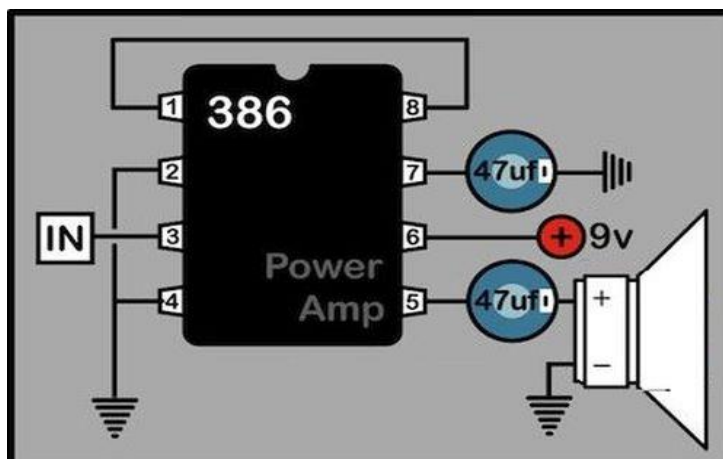
IC1 LM380N audio power amp i.c.

Miscellaneous

LS1 4 to 32 ohm loudspeaker



odyo ampli 1w 05-01 lm386



odyo ampli 1w 06-01 lm386

CI₁ - LM386 - Circuito Integrado - National Semiconductor

P₁ - 10 k ohms - potenciômetro (volume)

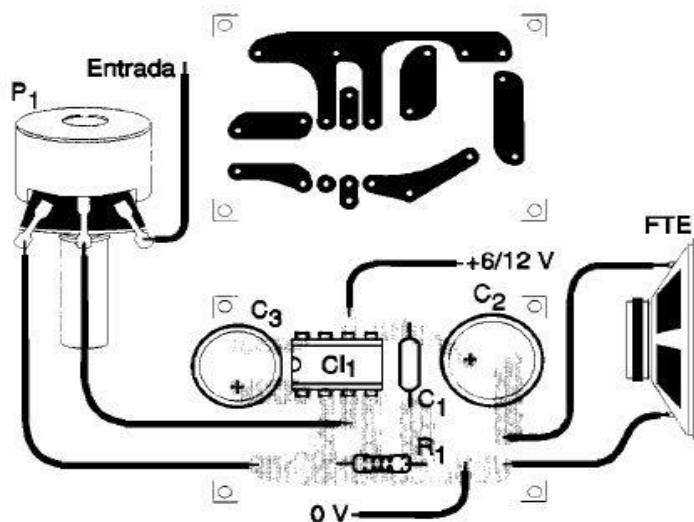
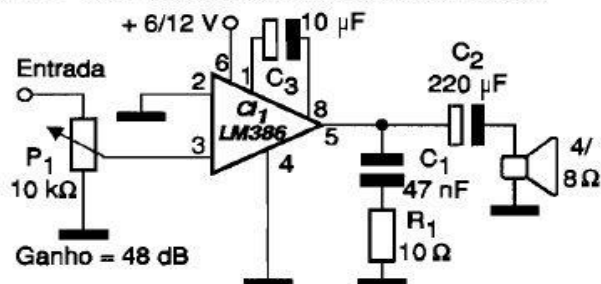
R₁ - 10 ohms x 1/8 W - resistor - marrom, preto, preto

C₁ - 47 nF - capacitor cerâmico ou de poliéster

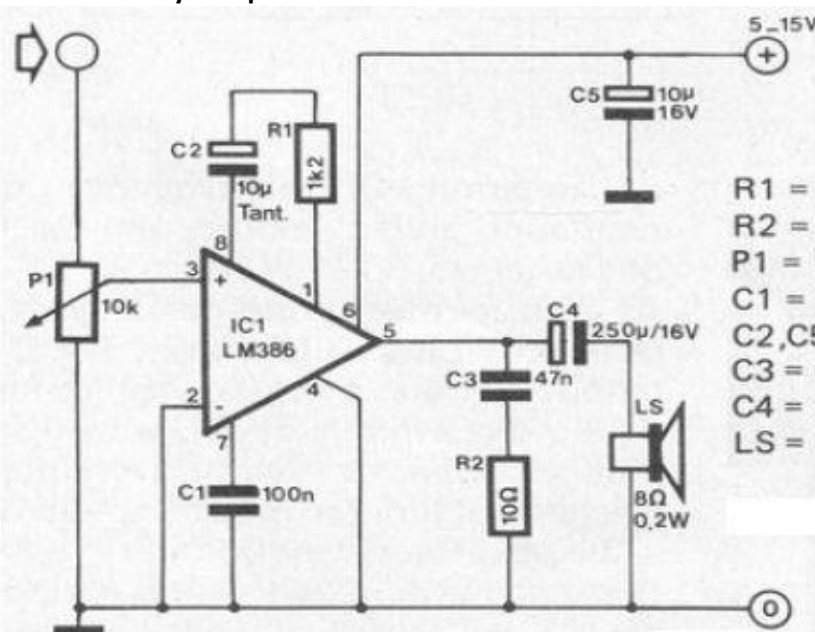
C₂ - 220 µF x 16 V - capacitor eletrolítico

C₃ - 10 µF x 16 V - capacitor eletrolítico

FTE - Alto-falante de 4 a 8 ohms ou fone



odyo ampli 1w 07-01 lm386



R1 = 1k2 (see text)

R2 = 10 Ω

P1 = 10-k-preset potentiometer

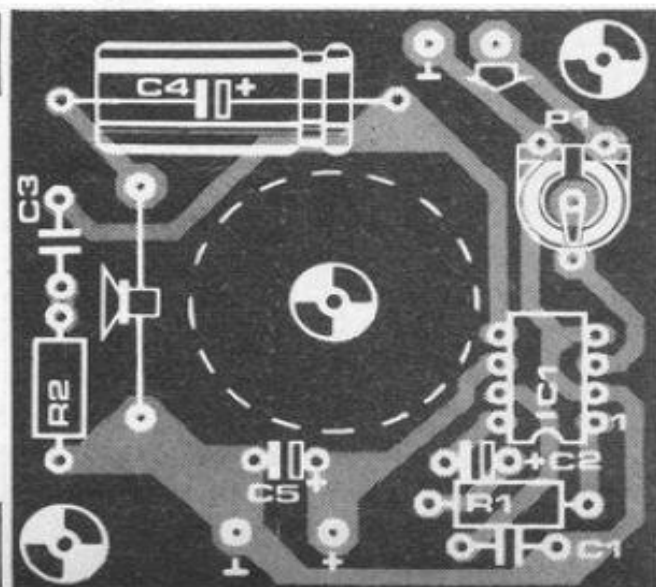
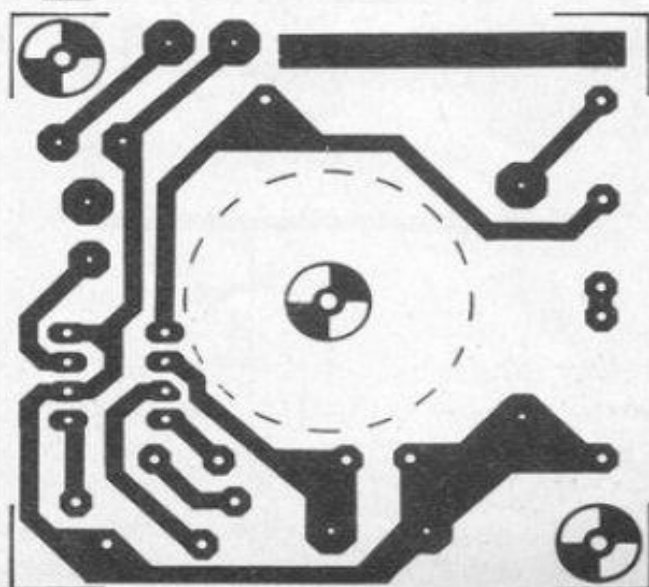
C1 = 100 n

C2, C5 = 10 µ/25 V Tantalum

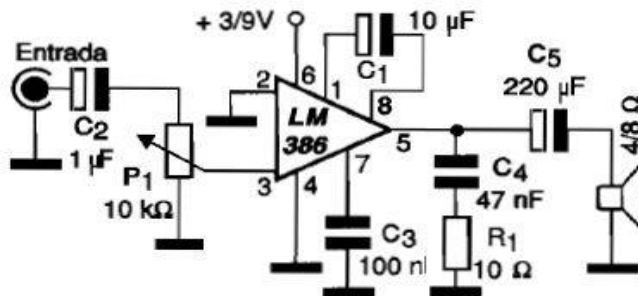
C3 = 47 n

C4 = 220 µ/16 V

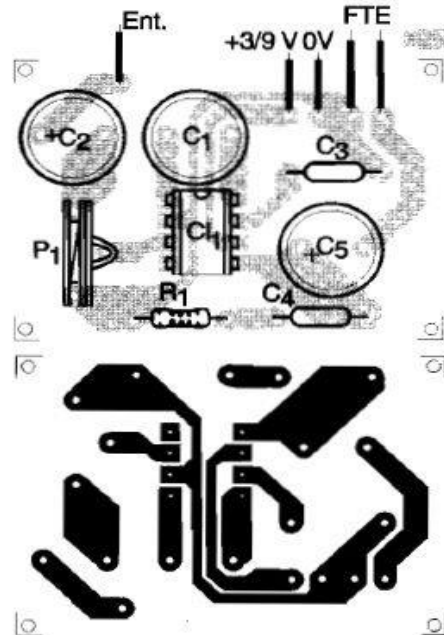
LS = loudspeaker 8 Ω/0.2 ... 1 W



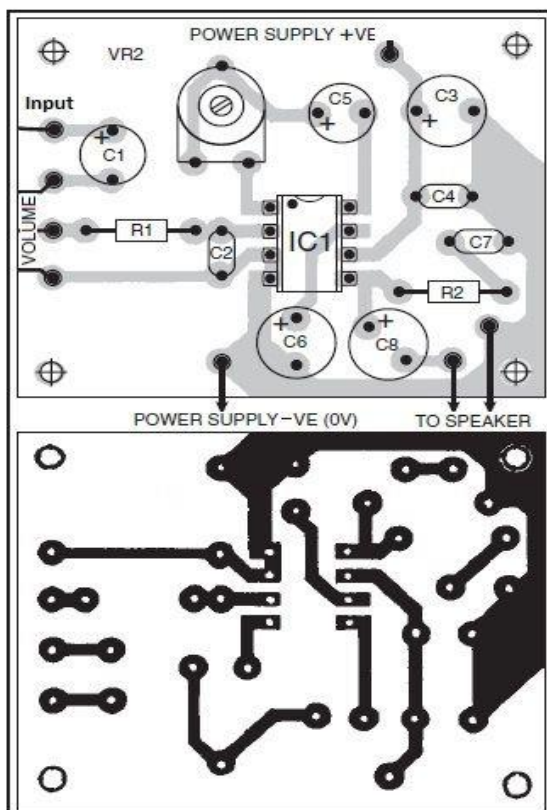
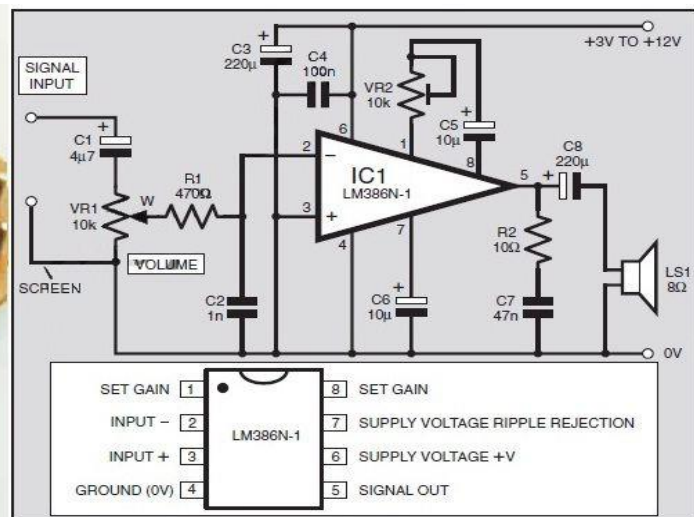
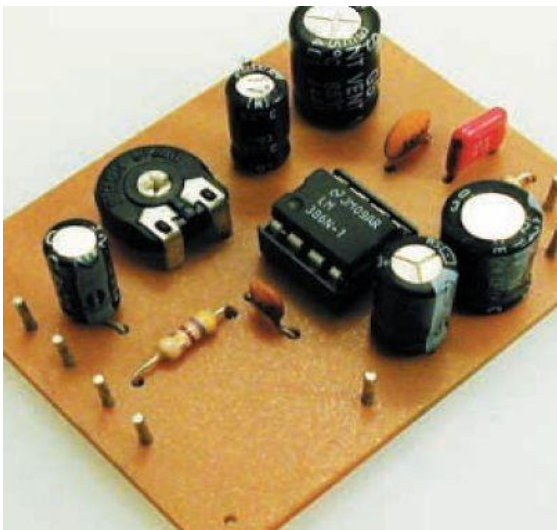
odyo ampli 1w 08-01 lm386



- C₁ - LM386 - circuito integrado
 C₁ - 10 µF x 12 V - capacitor eletrolítico
 C₂ - 1 µF x 12 V - capacitor eletrolítico
 C₃ - 100 nF - capacitor cerâmico ou poliéster
 C₄ - 47 nF - capacitor cerâmico ou poliéster
 C₅ - 220 µF x 12 V - capacitor eletrolítico
 R₁ - 10 Ω x 1/8 W - resistor - marrom, preto, preto
 P₁ - 10 kΩ - potenciômetro ou trimpot



odyo ampli 1w 09-01 lm386n-1



COMPONENTS

LM386N-1 AMPLIFIER

Resistors

R1 470Ω R2 10Ω
 All 0.25W 5% carbon film

Potentiometers

VR1 10k min. rotary carbon, log.
 VR2 10k enclosed carbon preset

Capacitors

C1 4µF radial elect. 25V
 C2 1n disc ceramic
 C3, C8 220µ radial elect. 25V (2 off)
 C4 100n disc ceramic
 C5, C6 10µ radial elect. 25V (2 off)
 C7 47n polyester

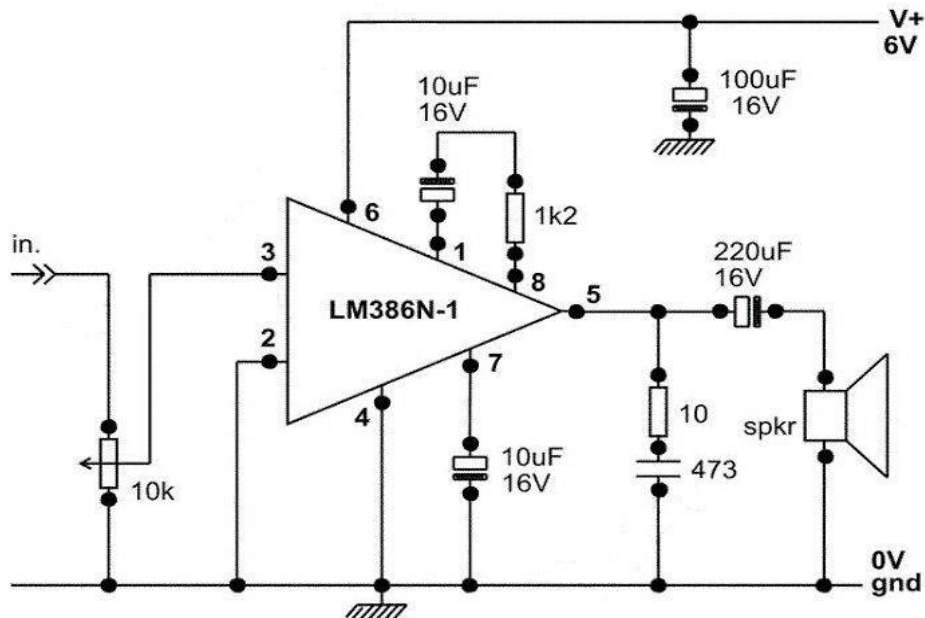
Semiconductor

IC1 LM386N-1 audio power amp i.c.

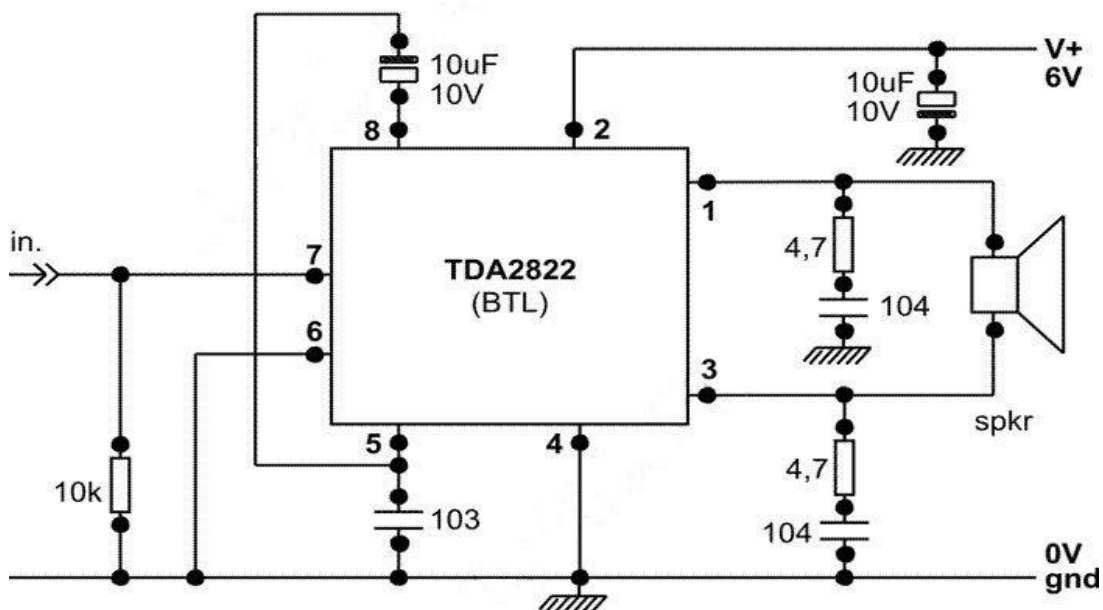
Miscellaneous

LS1 4 to 32 ohm loudspeaker

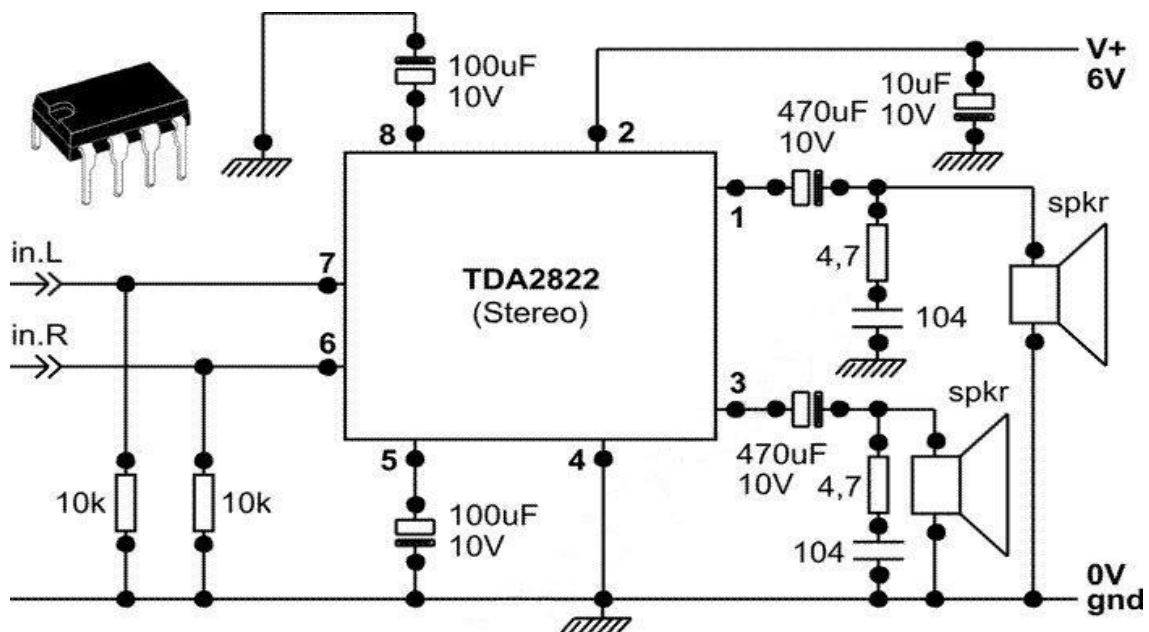
odyo ampli 1w 10-01 lm386n-1



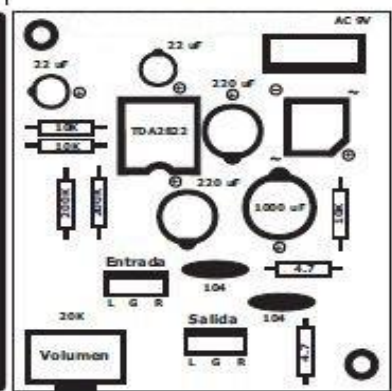
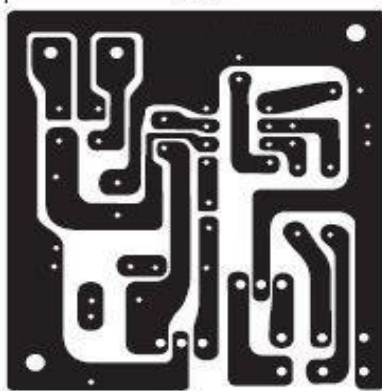
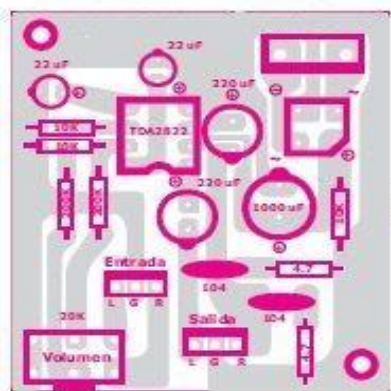
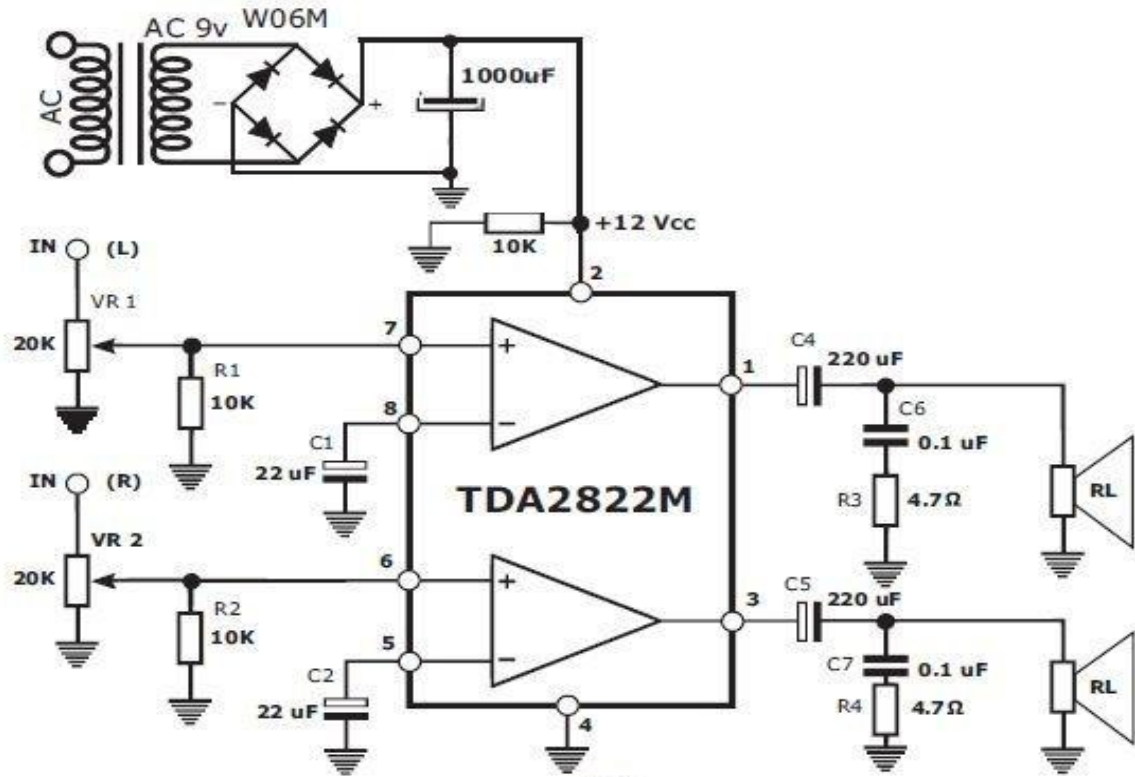
odyo ampli 1w 11-01 tda2822



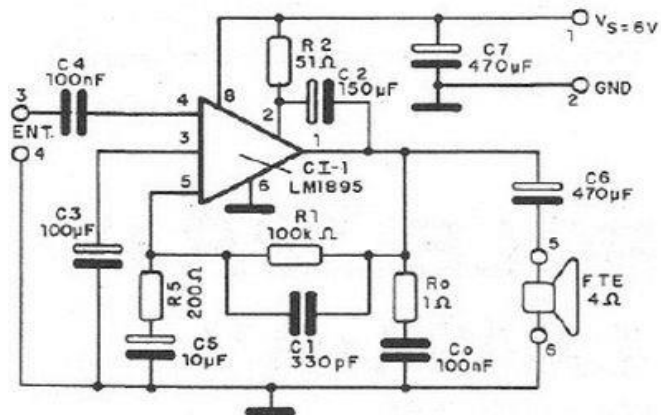
odyo ampli 1w 12-01 tda2822



odyo ampli 1w 13-01 tda2822



odyo ampli 1w 14-01 lm1895



CI-1 - LM1895

Resistores:

R1 - 100 kΩ

R2 - 51 Ω

R0 - 1 Ω

R5 - 200 Ω

Capacitores:

C1 - 330 pF

C2 - 150 µF

C3 - 100 µF

C4 - 100 nF

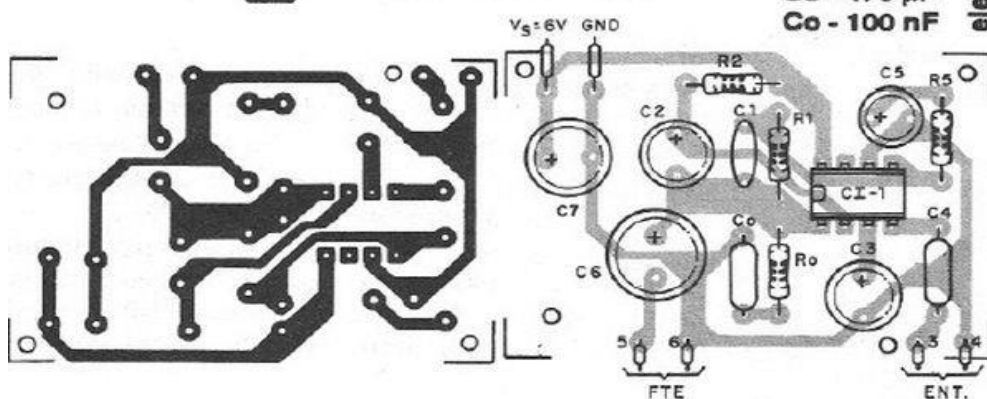
C5 - 10 µF

C6 - 470 µF

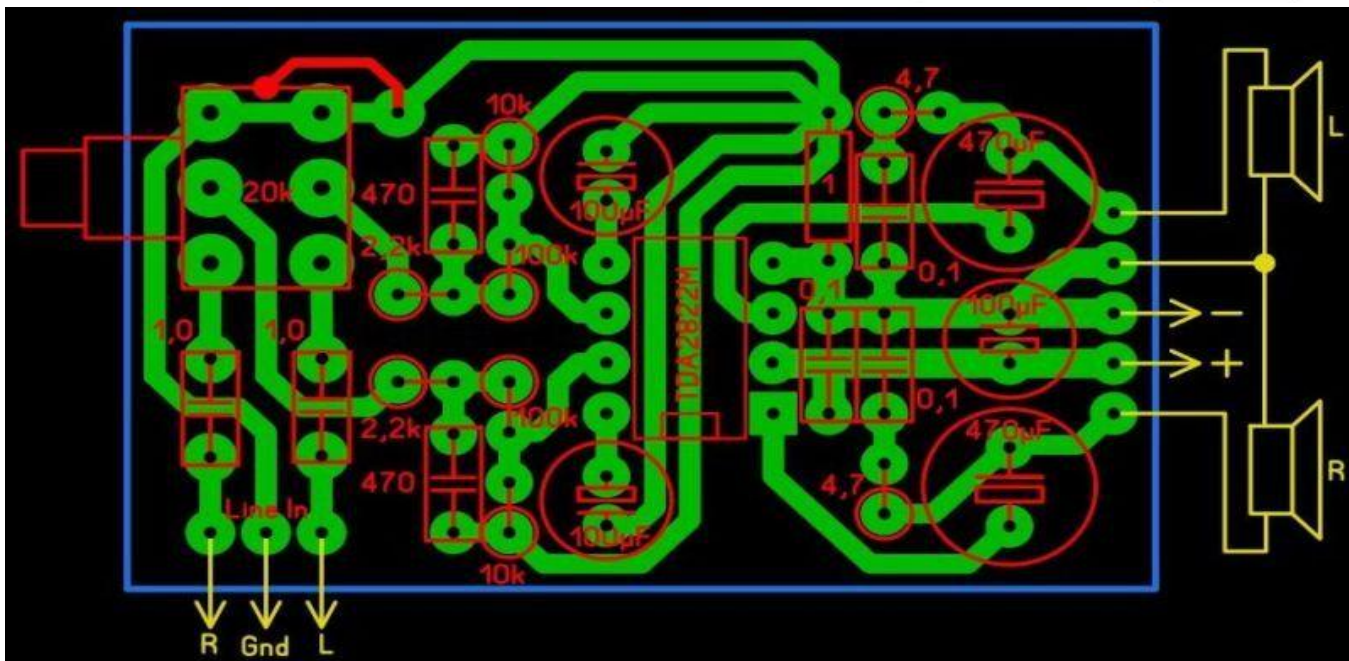
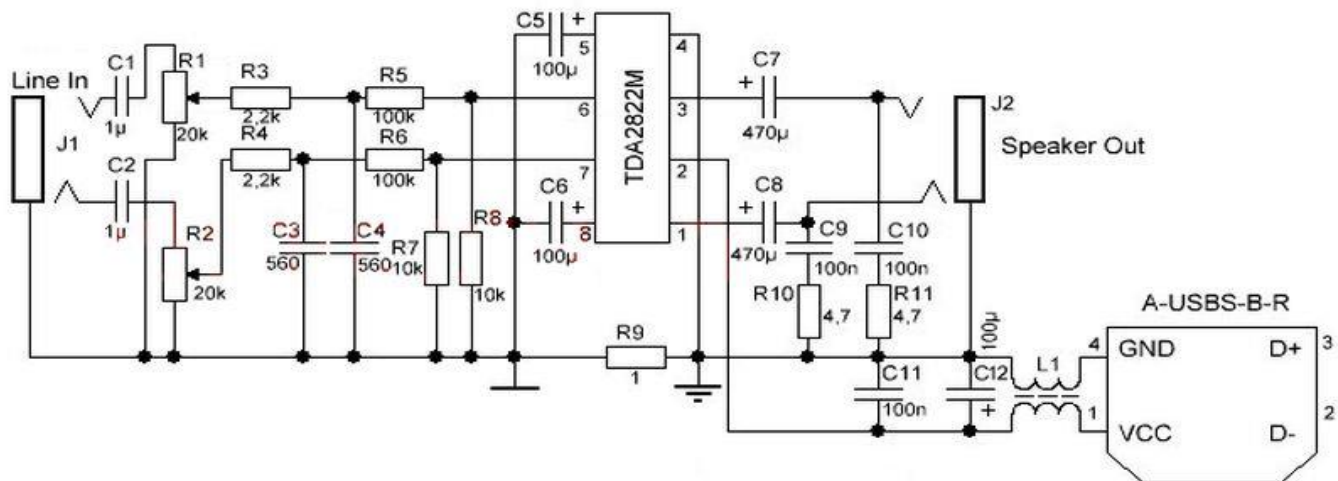
Cs - 470 µF

Co - 100 nF

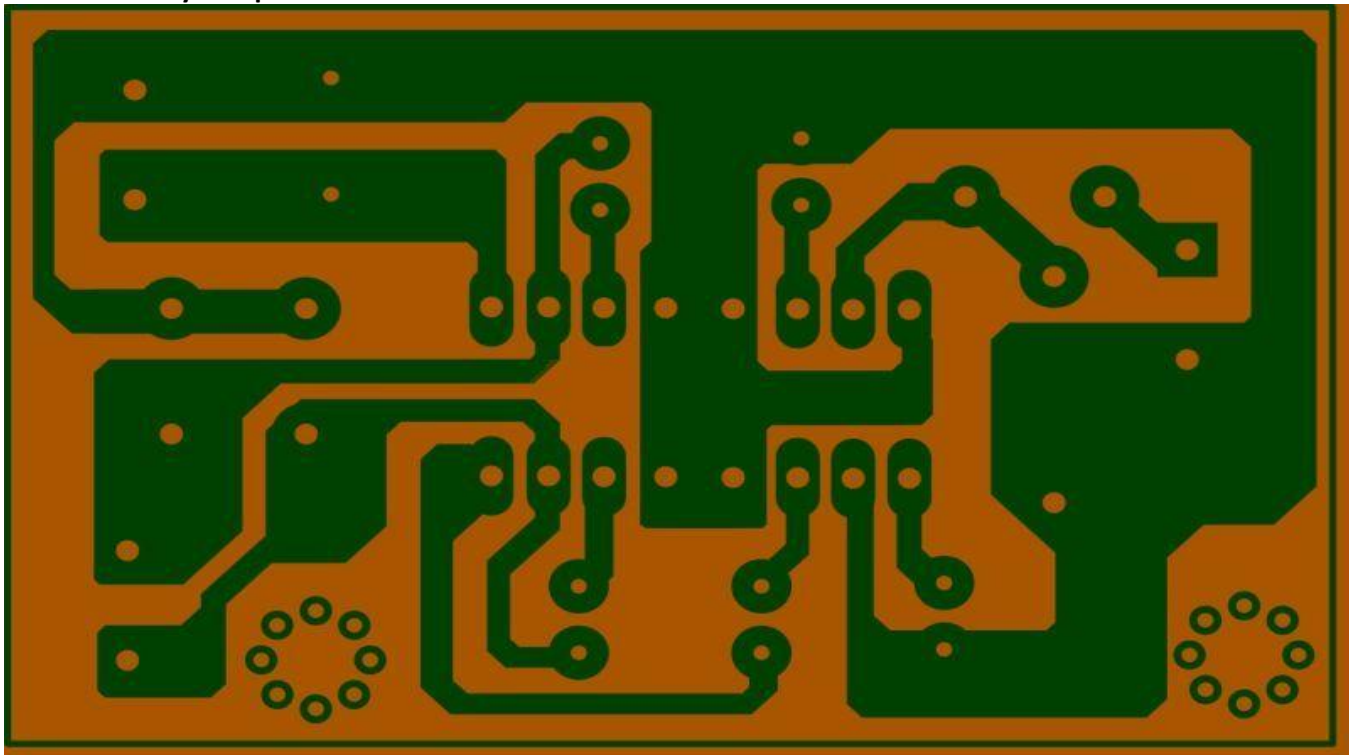
electrolíticos para 12 V (1/8 W, 5%)

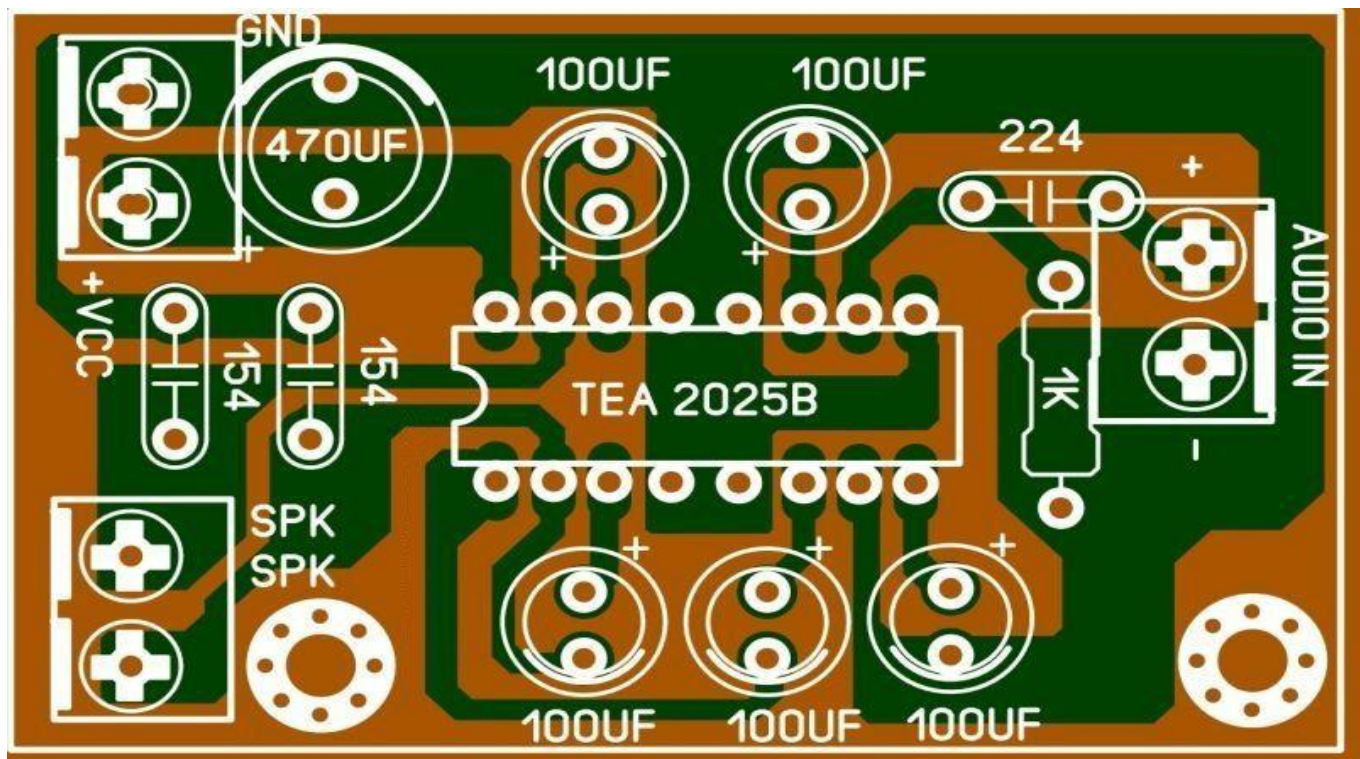


odyo ampli 2+2w 01-01 tda2822

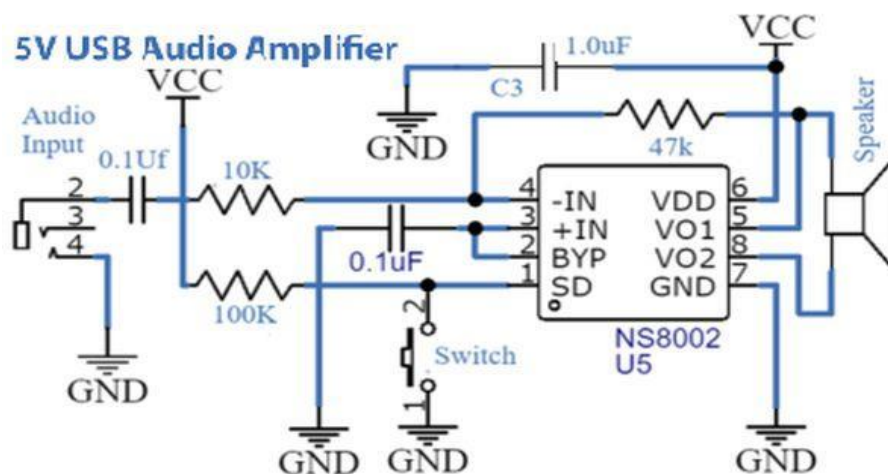


odyo ampli 2+2w 02-01 tea2025

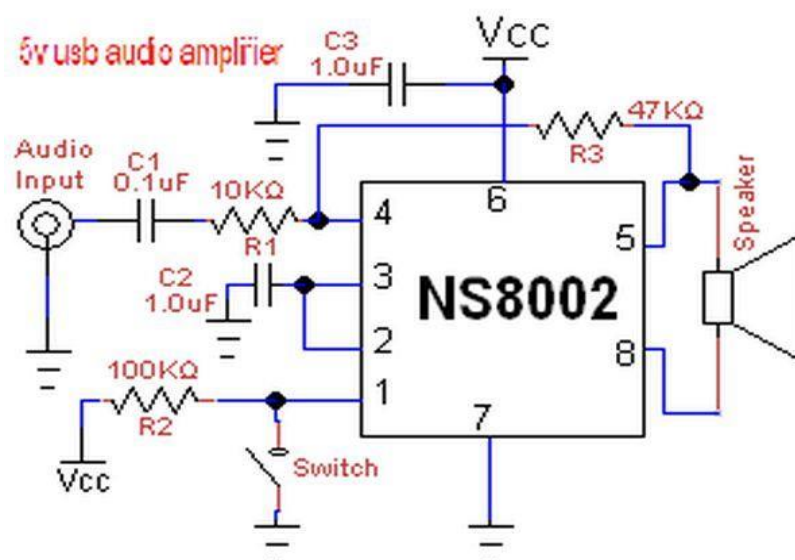




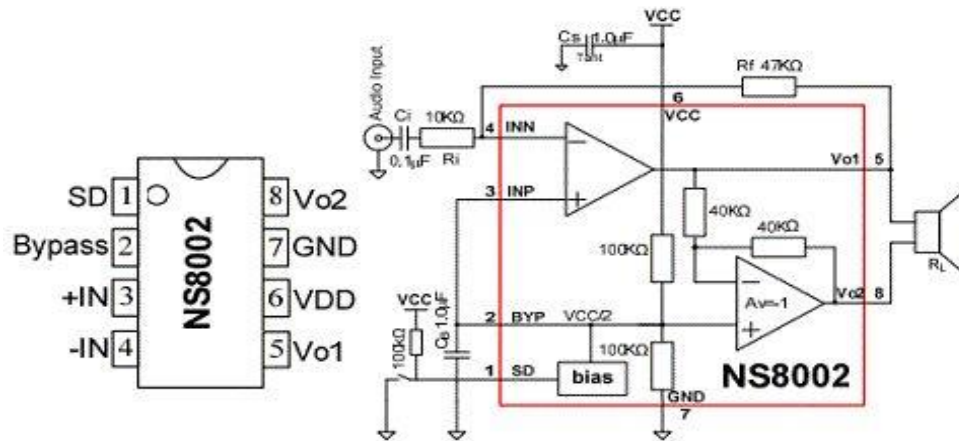
odyo ampli 2w 01-01 usb 8002



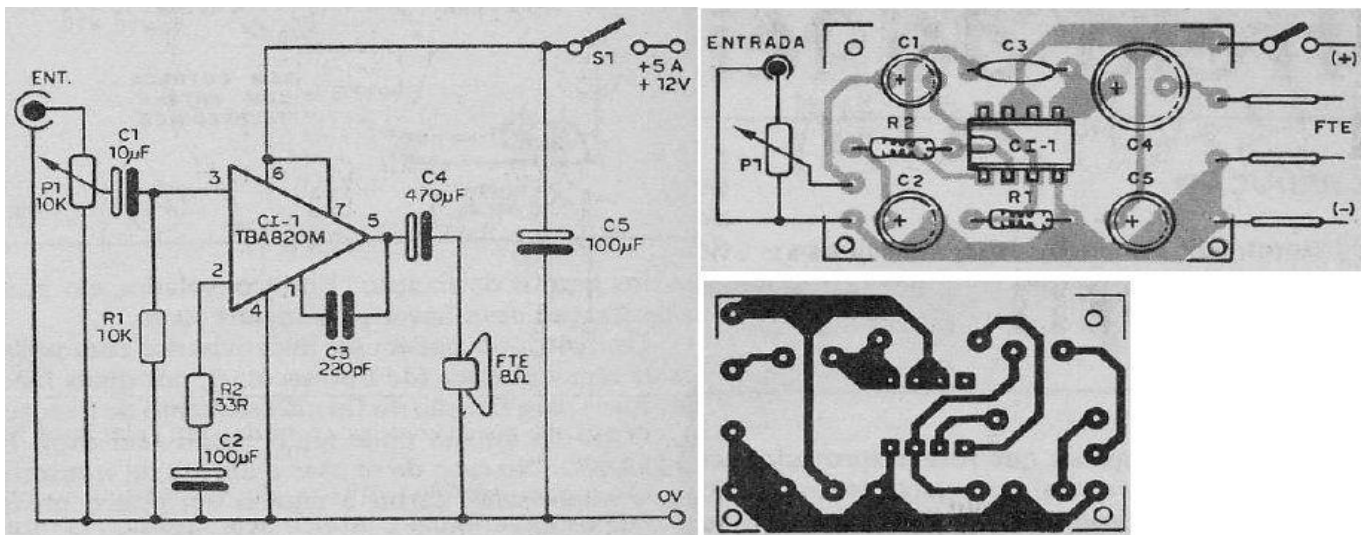
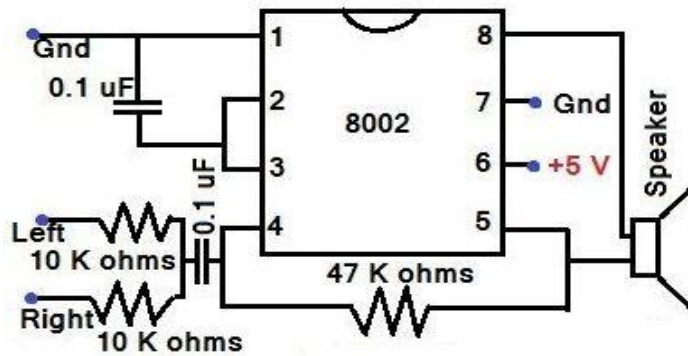
odyo ampli 2w 02-01 usb 8002



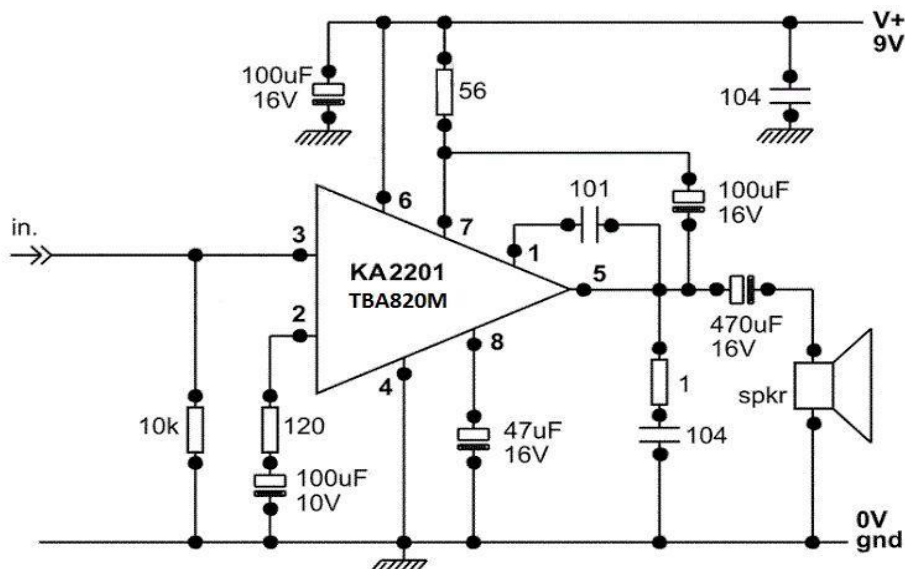
odyo ampli 2w 03-01 usb 8002



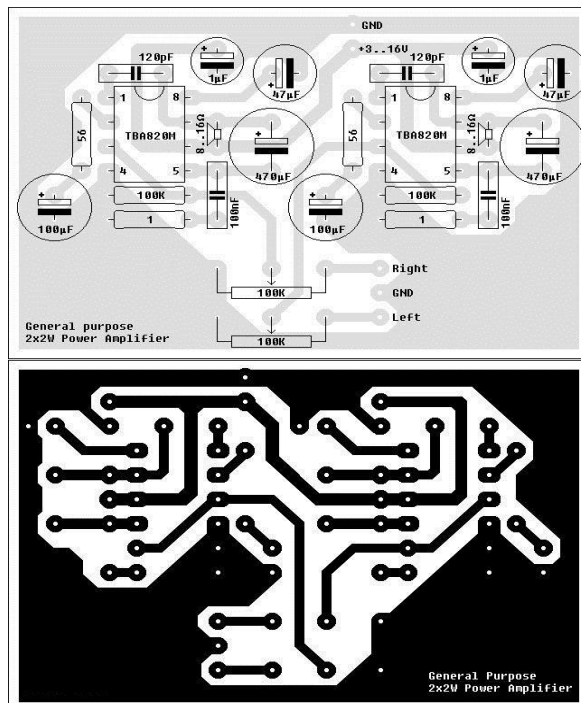
odyo ampli 2w 04-01 usb 8002



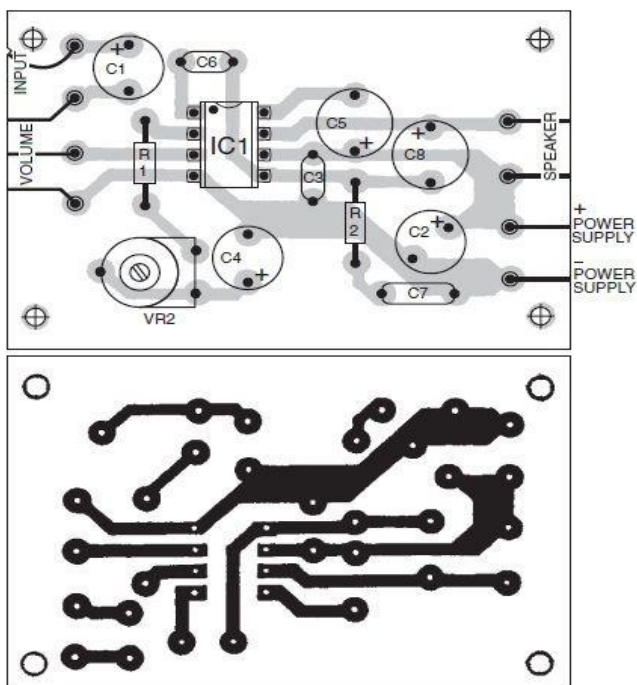
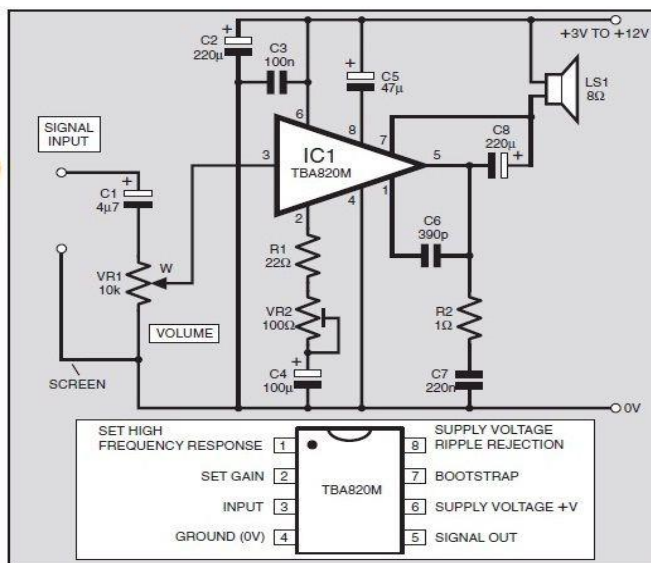
odyo ampli 2w 07-01 tba820m ka2201



odyo ampli 2w 06-01 tba820m ka2201



odyo ampli 2w 08-01 tba820m ka2201



COMPONENTS

TBA820M AMPLIFIER

Resistors

R1 22Ω

R2 1Ω

All 0.25W 5% carbon film

Potentiometers

VR1 10k min. rotary carbon, log.

VR2 100Ω enclosed carbon preset

Capacitors

C1 4μ7 radial elect. 25V

C2, C8 220μ radial elect. 25V (2 off)

C3, 100n disc ceramic

C4 100μ radial elect. 25V

C5 47μ radial elect. 25V

C6 390p ceramic

C7 220n polyester

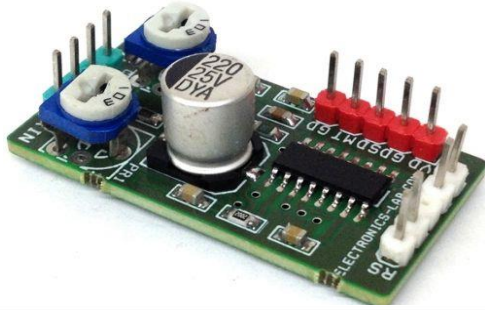
Semiconductor

IC1 TBA820M audio power amp i.c.

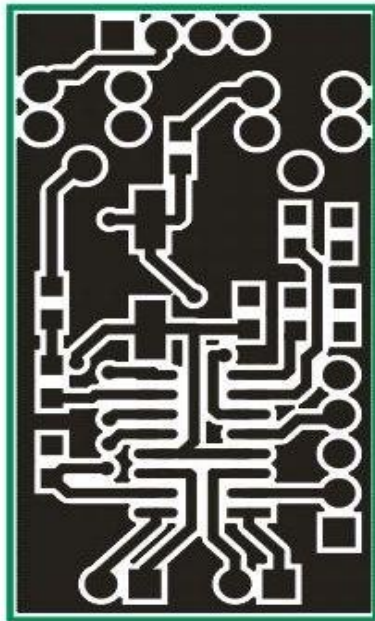
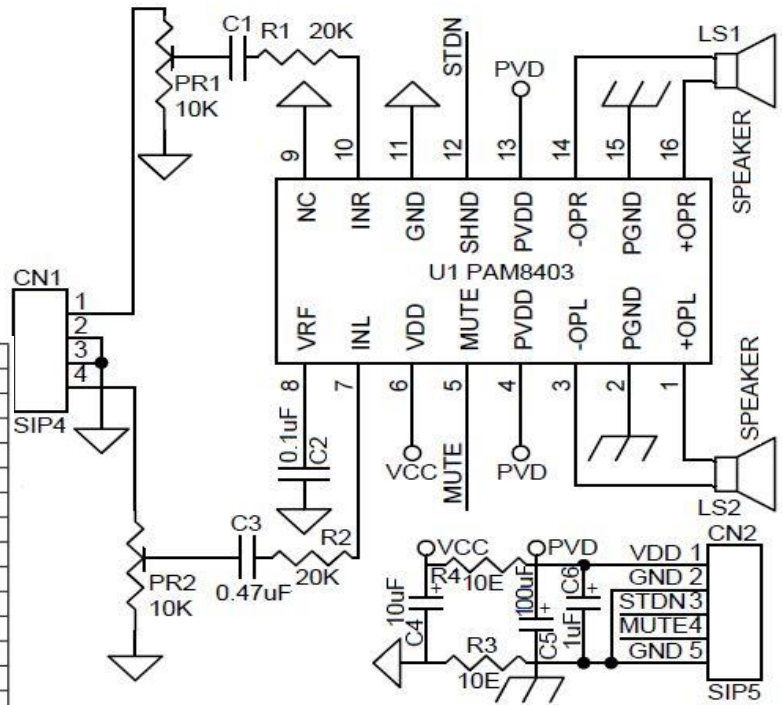
Miscellaneous

LS1 4 to 32 ohm loudspeaker

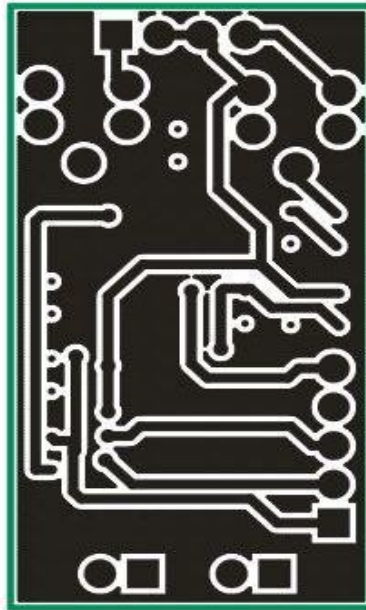
odyo ampli 3+3w 01-01 pam8403



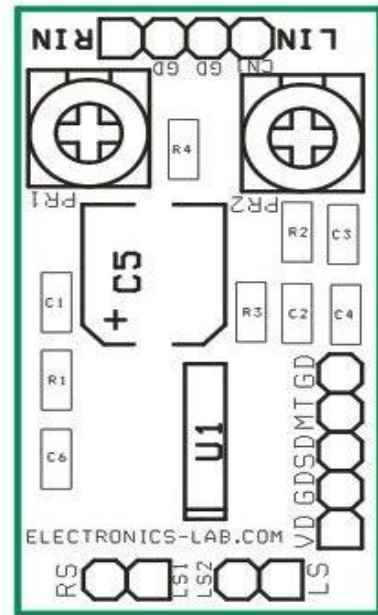
BOM			
SR.	QNTY.	REF.	DESC
1	1	CN1	4 PIN HEADER CONNECTOR
2	1	CN2	5 PIN HEADER CONNECTOR
3	2	C1,C3	0.47uF SMD 0805
4	1	C2	0.1uF SMD 0805
5	1	C4	10uF SMD 0805
6	1	C5	100uF SMD
7	1	C6	1uF SMD 0805
8	2	LS1,LS2	2 PIN HEADER CONNECTOR
9	2	PR1,PR2	10K TRIMMER POT
10	2	R1,R2	20K SMD 0805
11	1	R3	10E SMD 0805
12	1	R4	0E SMD 0805
13	1	U1	PAM8403 SMD SO16



TOP LAYER

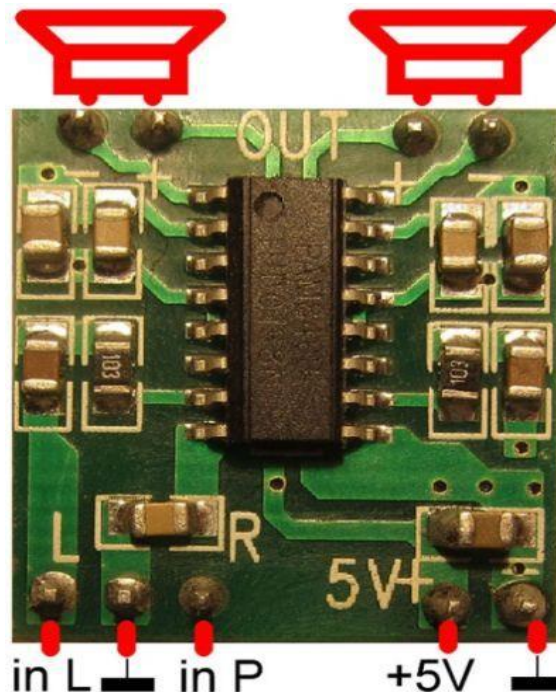
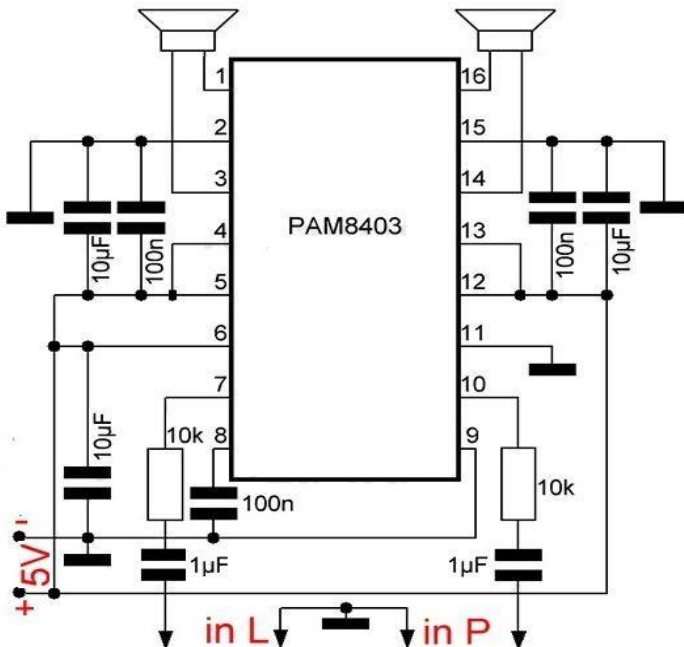


BOTTOM LAYER

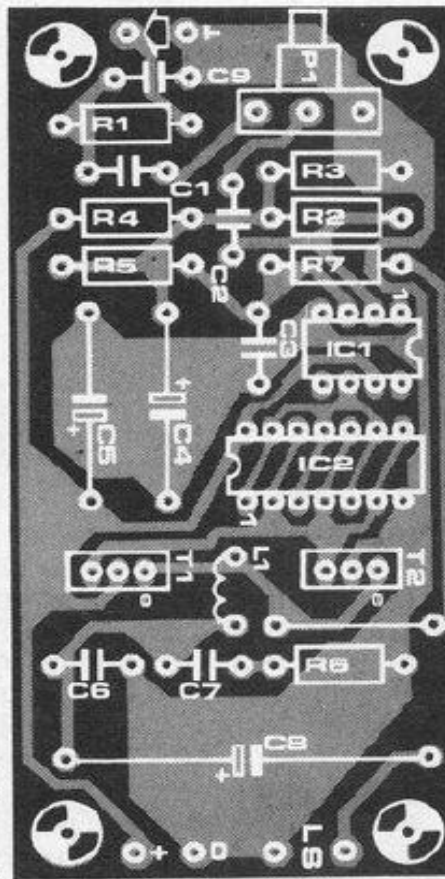
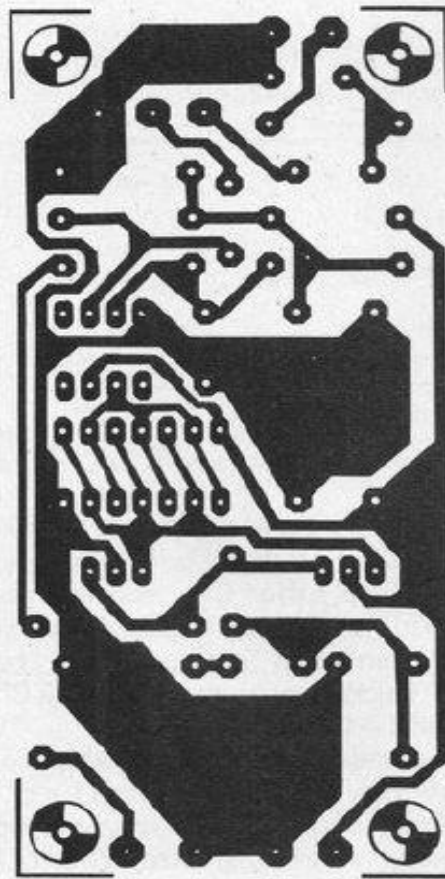
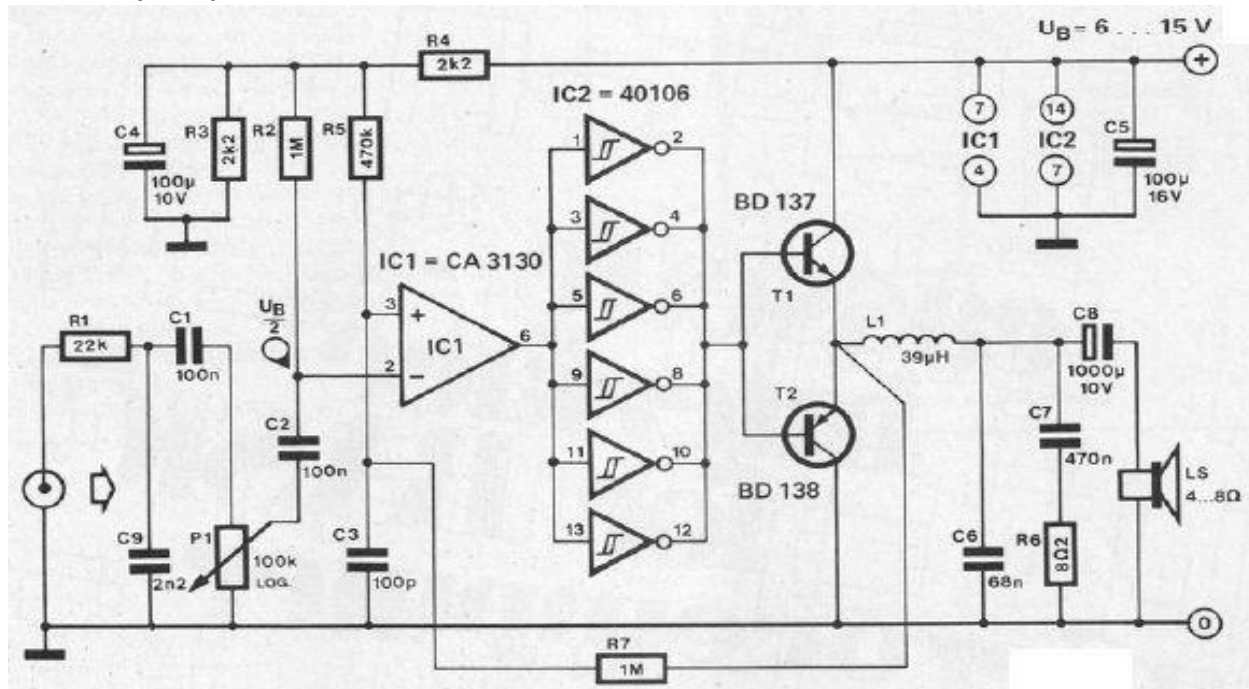


SILK SCREEN TOP

odyo ampli 3+3w 02-01 pam8403



odyo ampli 3w 01-01 ca3130



Resistors:

R1 = 22 k
R2, R7 = 1 M
R3, R4 = 2k2
R5 = 470 k
R6 = 8Ω2
P1 = 100 log. potentiometer

Capacitors:

C1, C2 = 100 n
C3 = 100 p
C4 = 100 μ/10 V
C5 = 100 μ/16 V
C6 = 68 n
C7 = 470 n
C8 = 1000 μ/10 V
C9 = 2n2

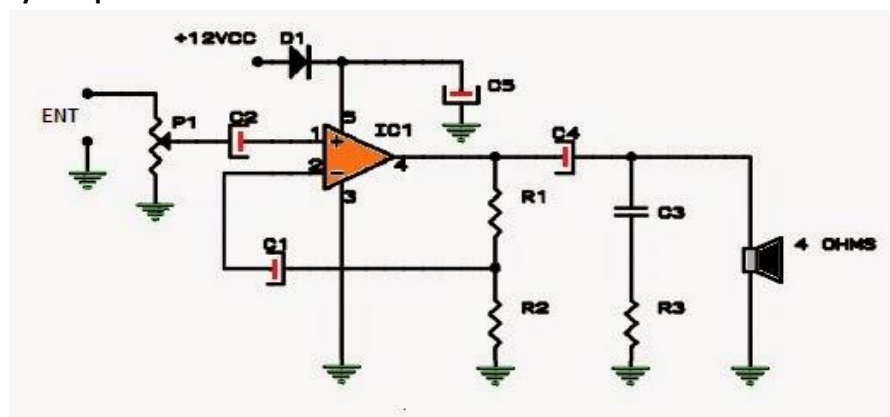
Semiconductors:

IC1 = CA3130
IC2 = 40106
T1 = BD137
T2 = BD138

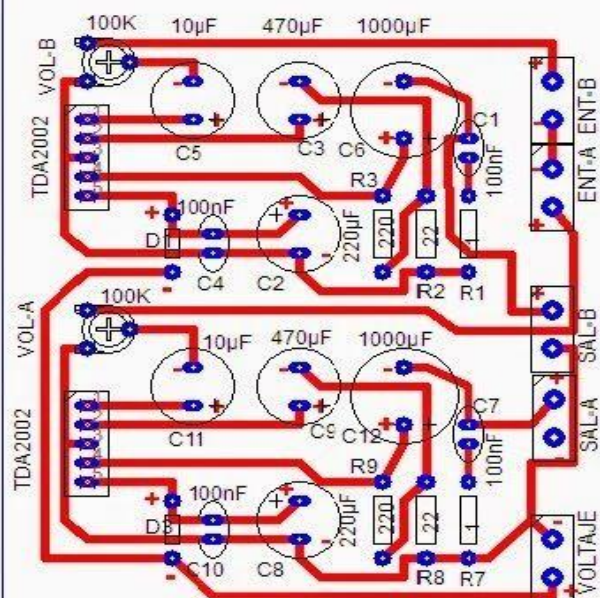
Miscellaneous:

L1 = 39 μH

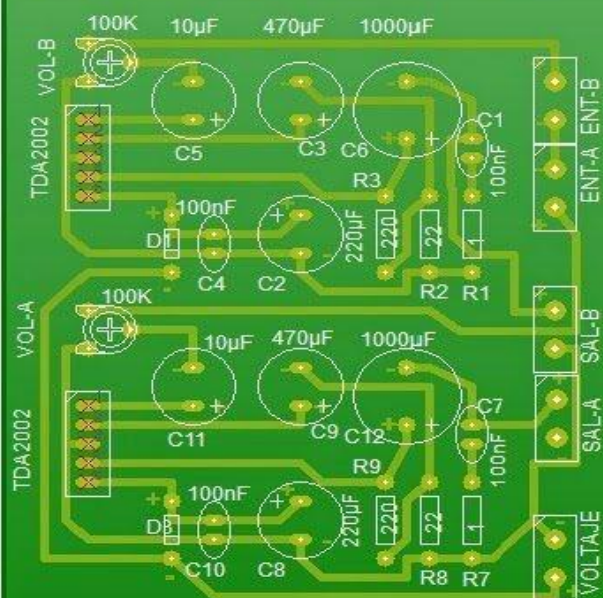
odyo ampli 4+4w 01-01 tda2002



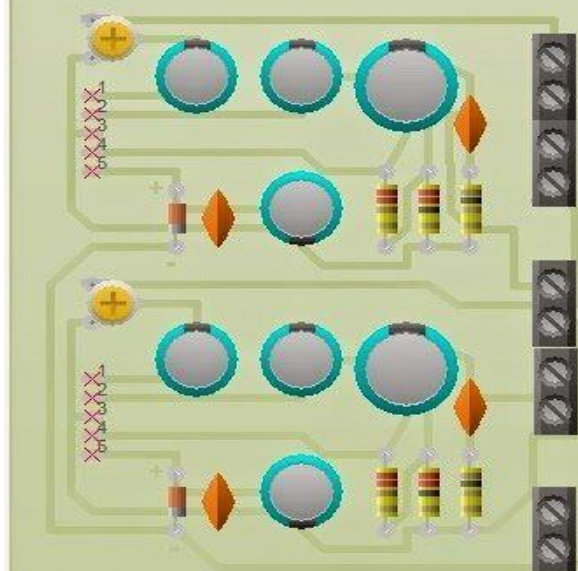
Amplificador de 8 Watt TDA2002



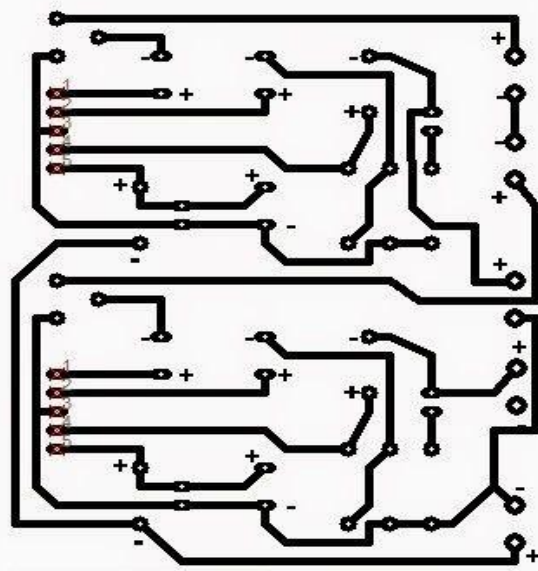
Amplificador de 8 Watt TDA2002



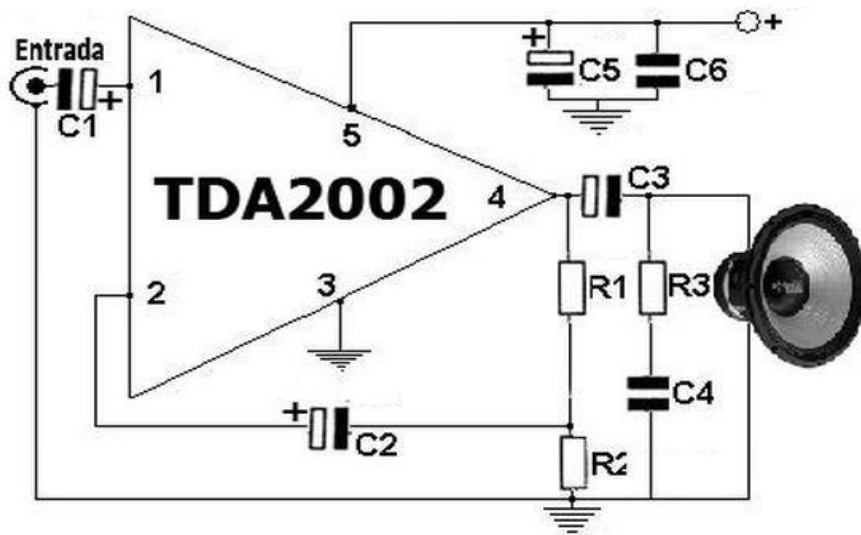
Amplificador de 8 Watt TDA2002



Amplificador de 8 Watt TDA2002



odyo ampli 4w 01-01 tda2002



IC1 - TDA2002 ou TDA2003

R1 – resistor 220 Ohm 1/4 Watt

R2 – resistor 2,2 Ohm 1/4 Watt

R3 – resistor 1 Ohm 1/4 Watt

C1 – capacitor 10uF – 30Volts eletrolítico

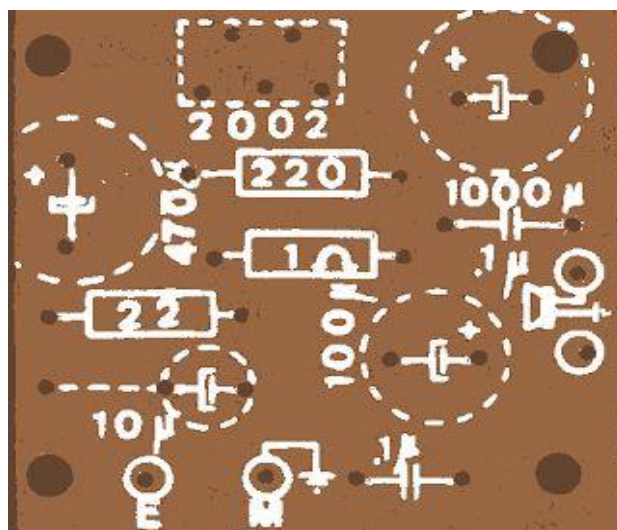
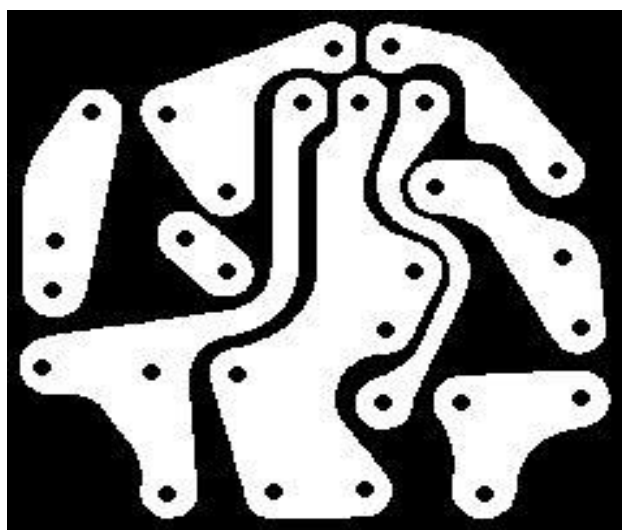
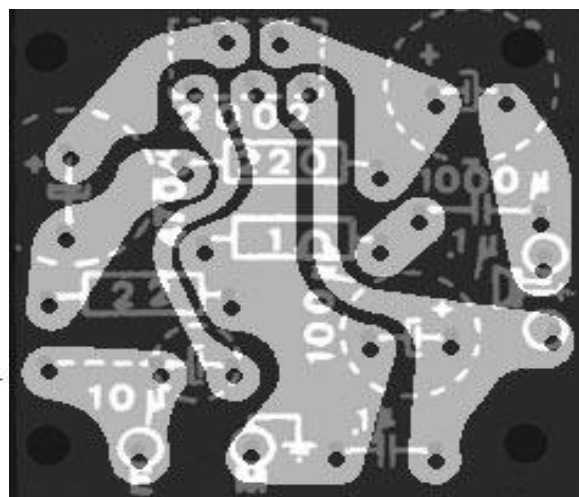
C2 – capacitor 470uF – 30Volts eletrolítico

C3 – capacitor 1000uF – 30Volts eletrolítico

C4 – capacitor 100nF cerâmica ou poliéster

C6 – capacitor 100nF cerâmica ou poliéster

C5 – capacitor 100uF – 30 Volts eletrolítico



odyo ampli 4w 02-01 tda2002

CI₁ - TDA2002 - circuito integrado, amplificador de áudio

C₁ - 4,7 µF x 16 V - capacitor eletrolítico

C₂ - 470 µF x 16 V - capacitor eletrolítico

C₃, C₅ - 1 000 µF x 25 V - capacitor eletrolítico

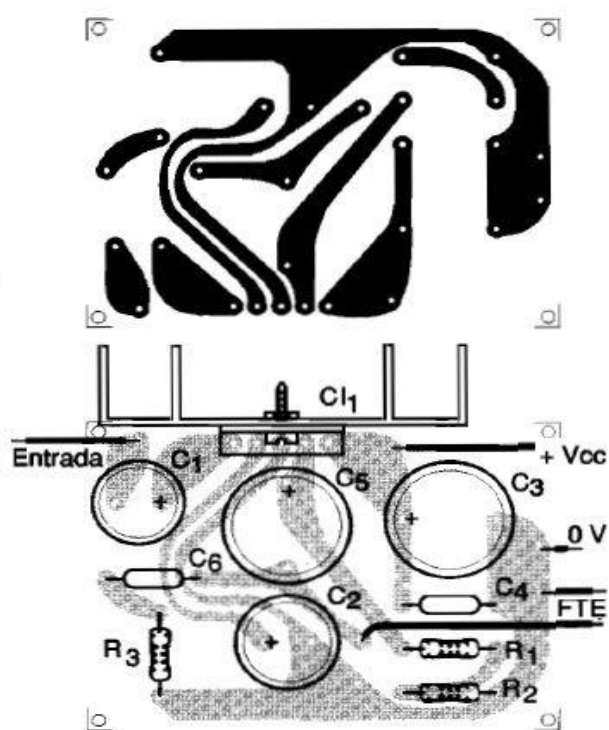
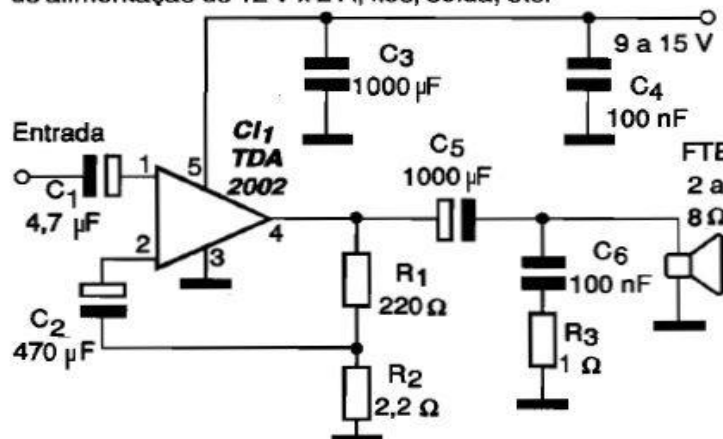
C₄, C₆ - 100 nF - capacitor cerâmico

R₁ - 220 Ω x 1/8 W - resistor - vermelho, vermelho, marrom

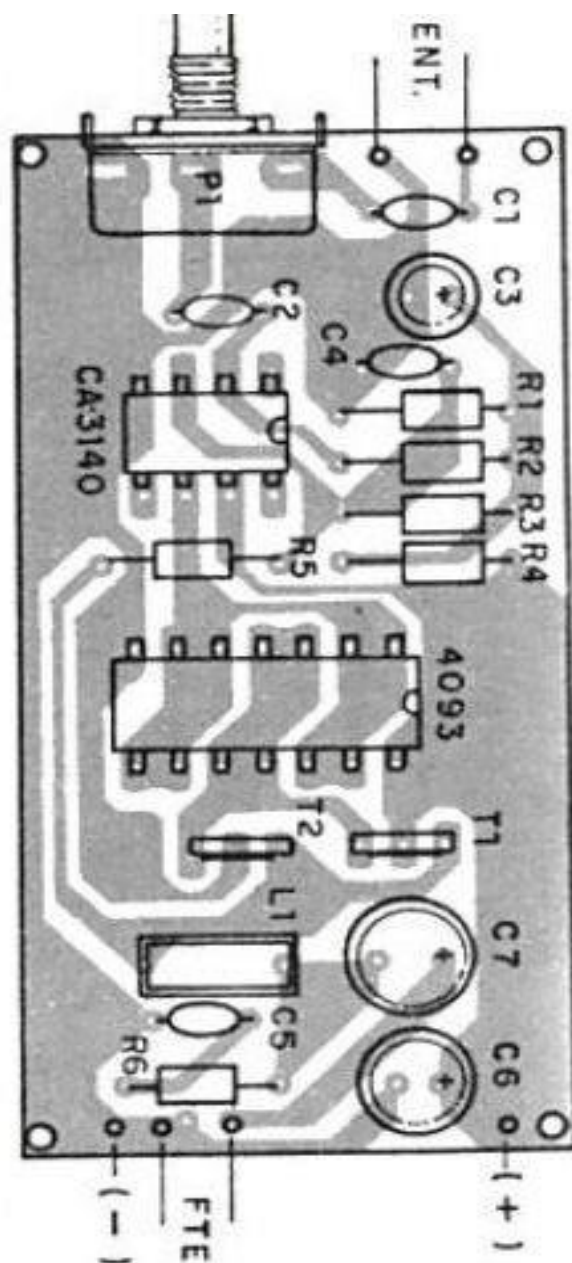
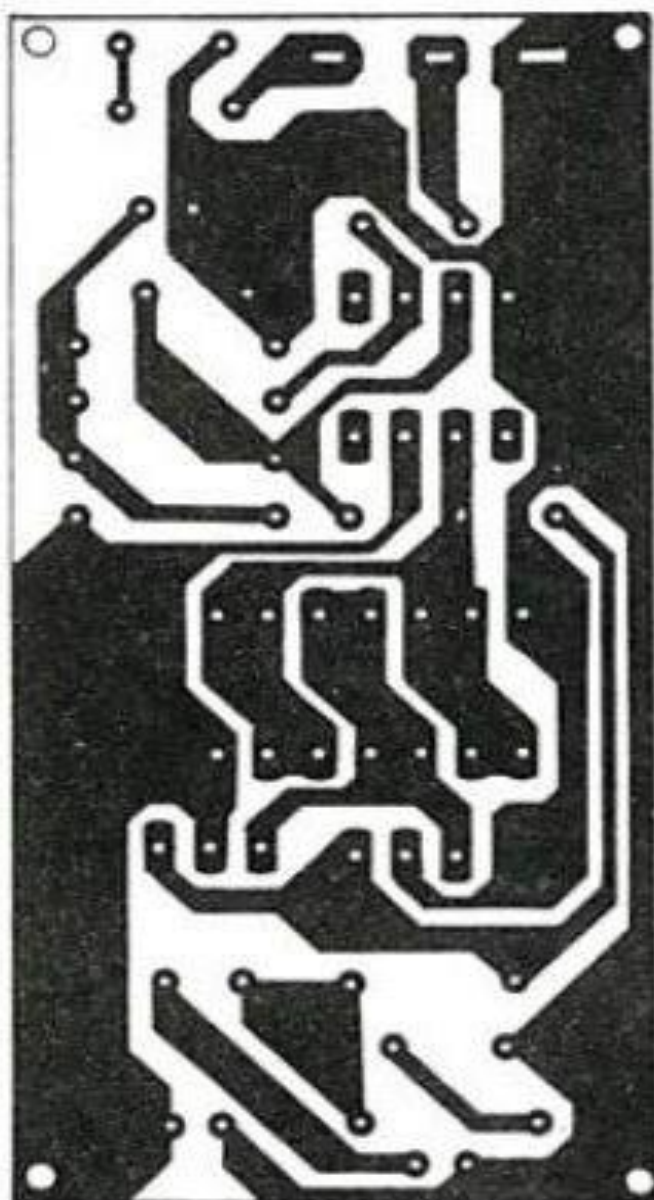
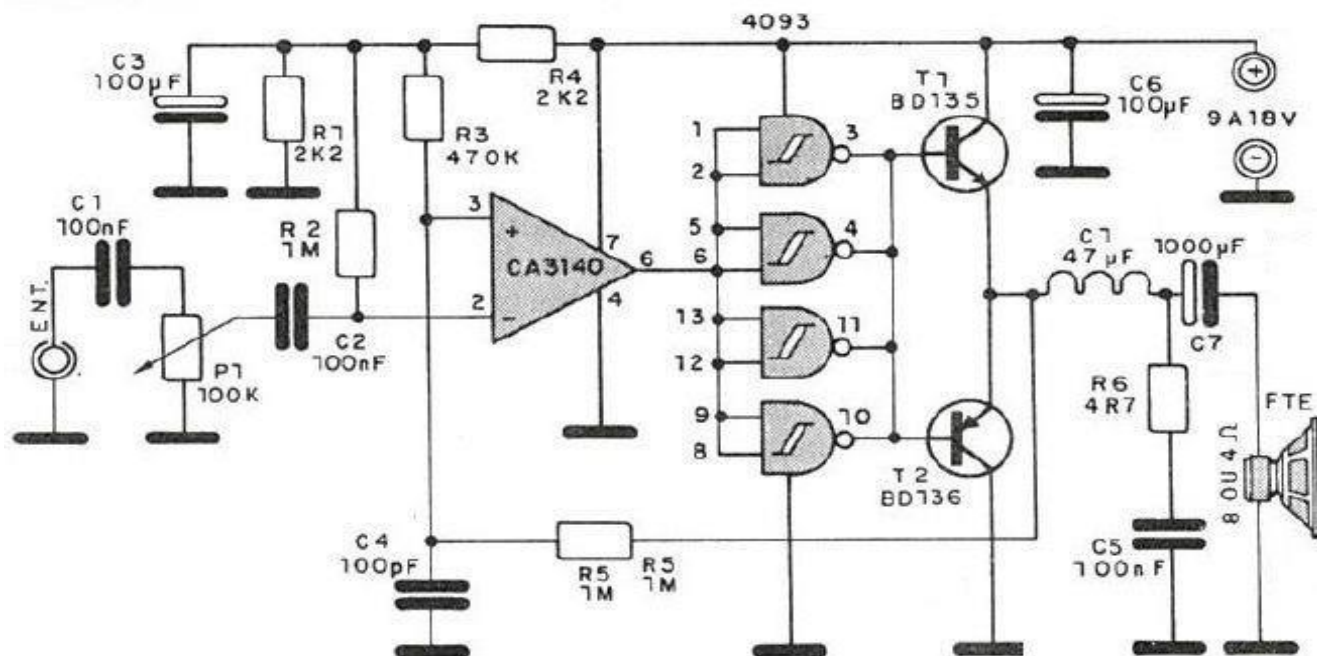
R₂ - 2,2 Ω x 1/8 W - vermelho, vermelho, dourado

FTE - 2 ou 4 Ω x 20 cm ou maior - alto-falante

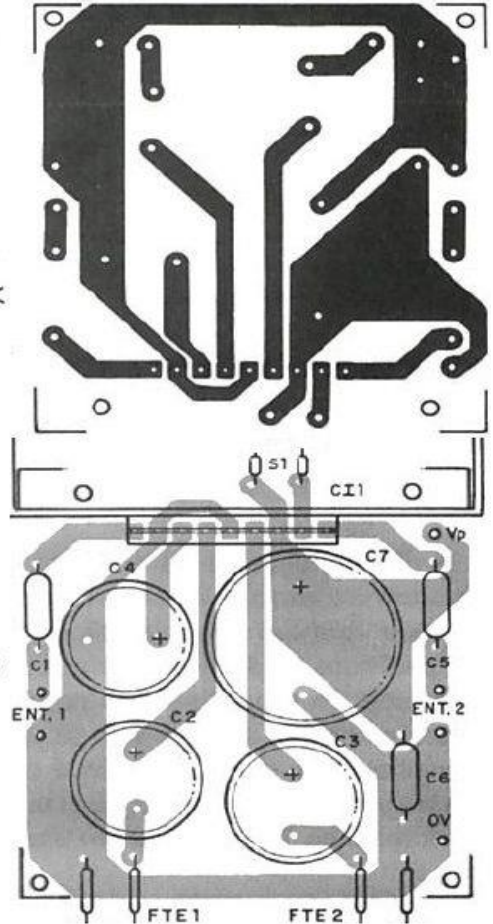
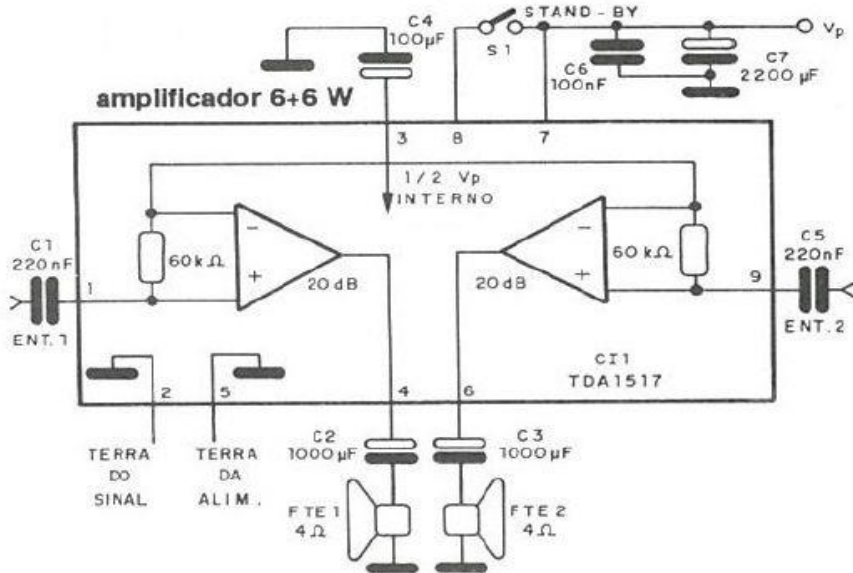
Diversos: placa de circuito impresso, radiador de calor, fonte de alimentação de 12 V x 2 A, fios, solda, etc.



odyo ampli 5w 01-01 3140-4093 pulse width mod ampli



odyo ampli 6+6w 01-01 tda1517



Semicondutores:

CI₁ - TDA1517 - circuito integrado

Capacitores:

C₁, C₅ - 220 nF - poliéster

C₂, C₃ - 1 000 µF - eletrolíticos de 16 V

C₄ - 100 µF - eletrolítico de 16 V

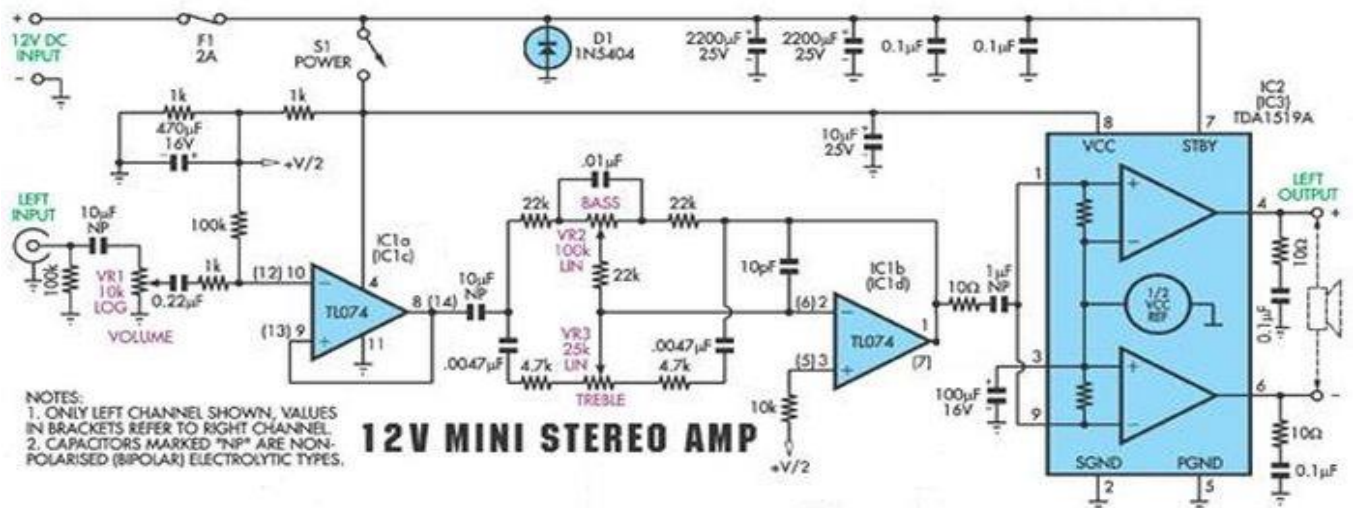
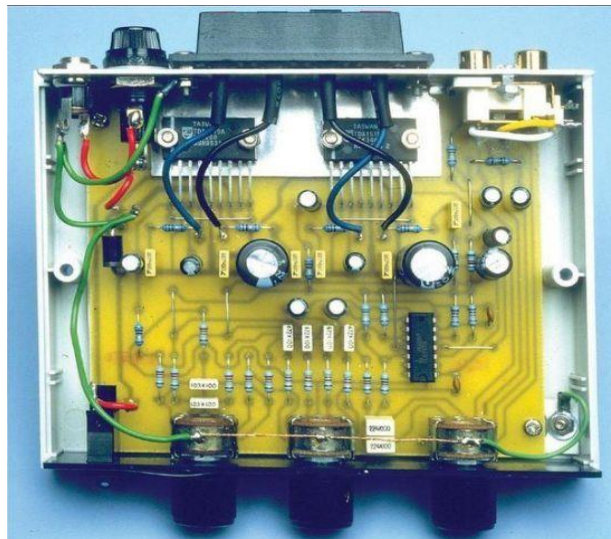
C₆ - 100 nF - cerâmico

C₇ - 2 200 µF - eletrolítico de 16 V

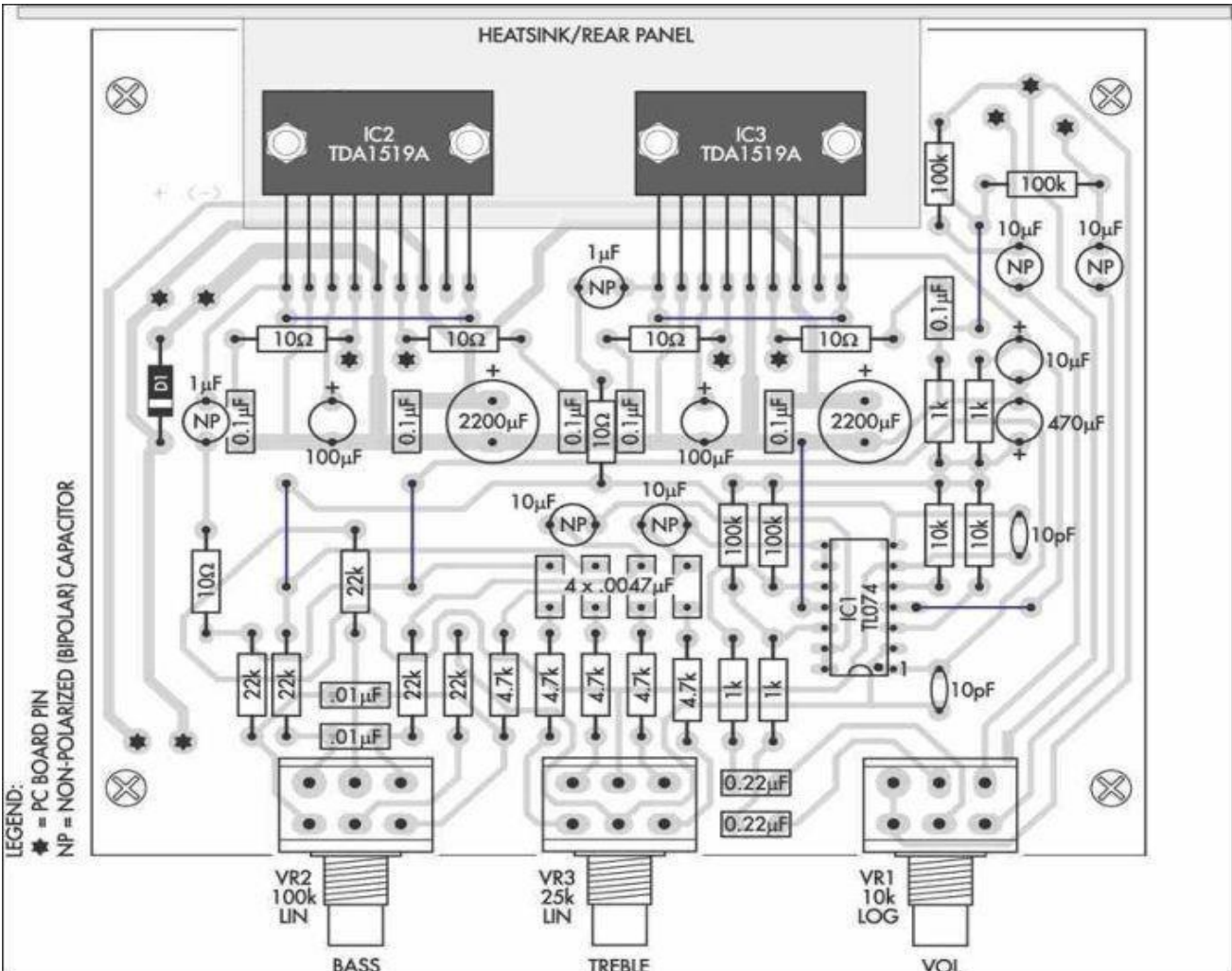
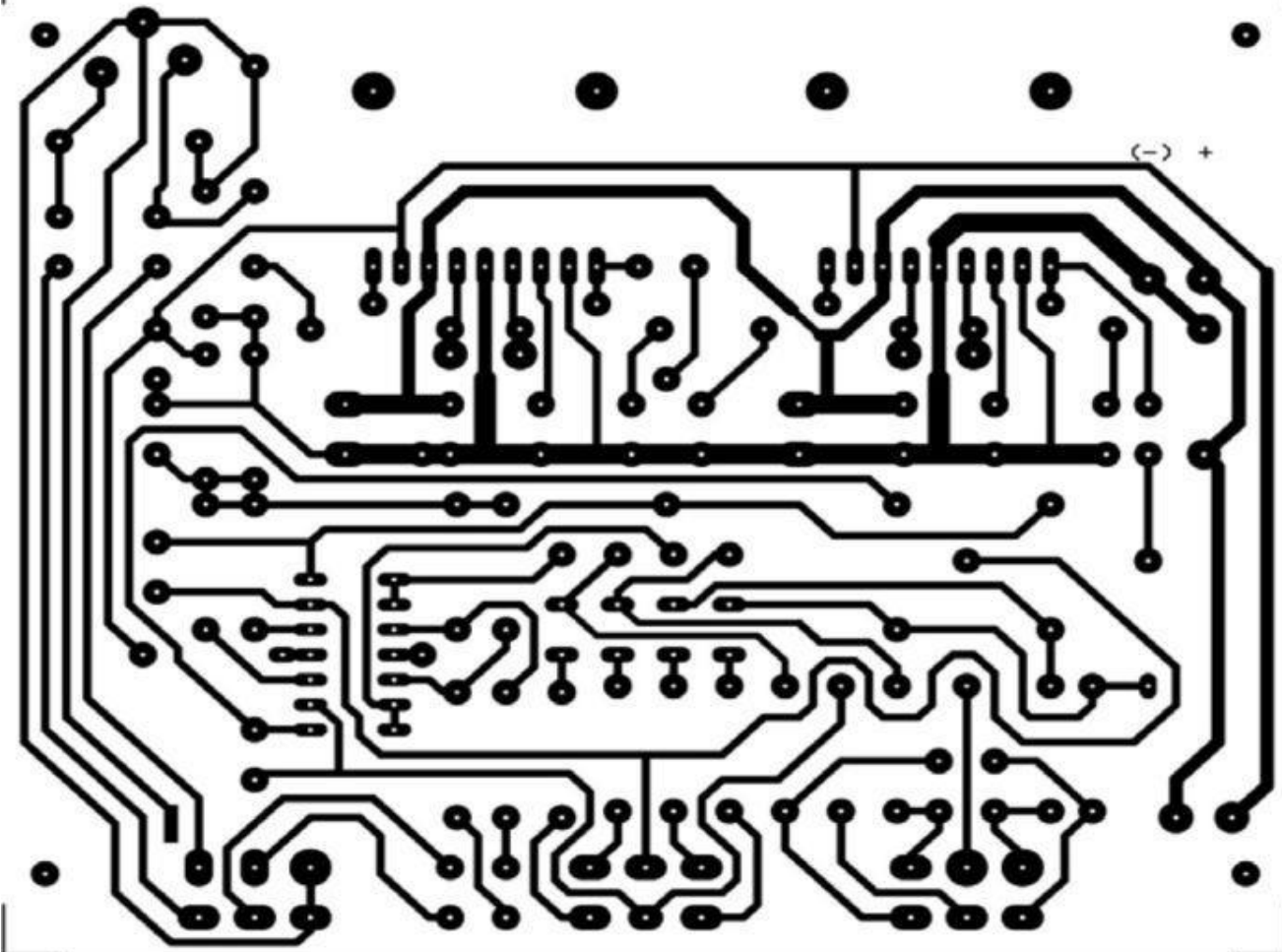
Diversos:

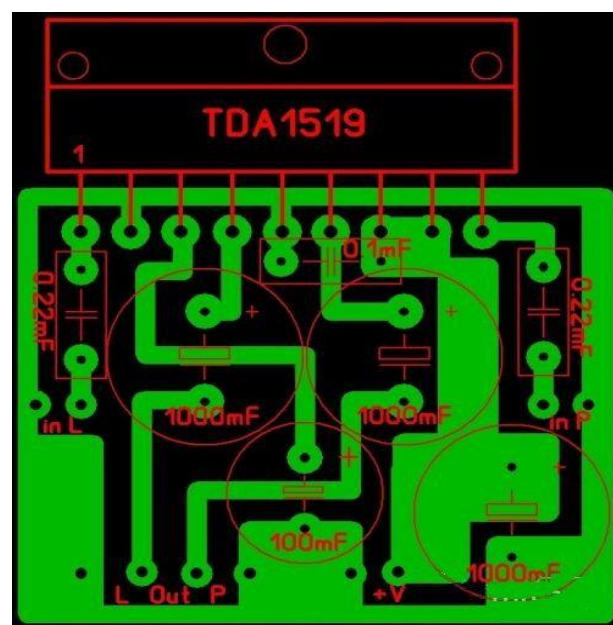
FTE₁, FTE₂ - alto-falantes 4 Ω

odyo ampli 6+6w 02-01 tda1519a



STEREO AMPLIFIER





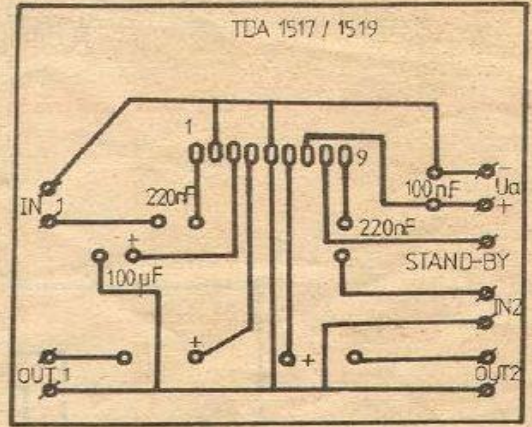
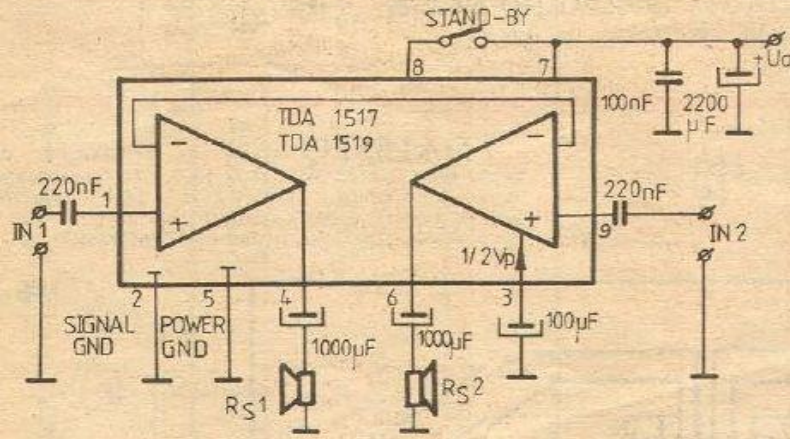
odyo ampli 6+6w 04-01 tda1519

TDA1517/TDA1519

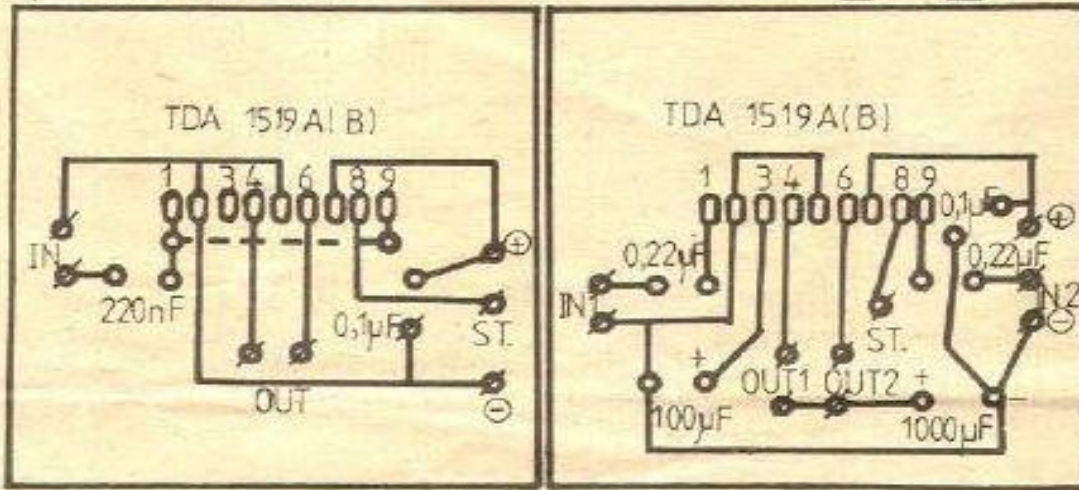
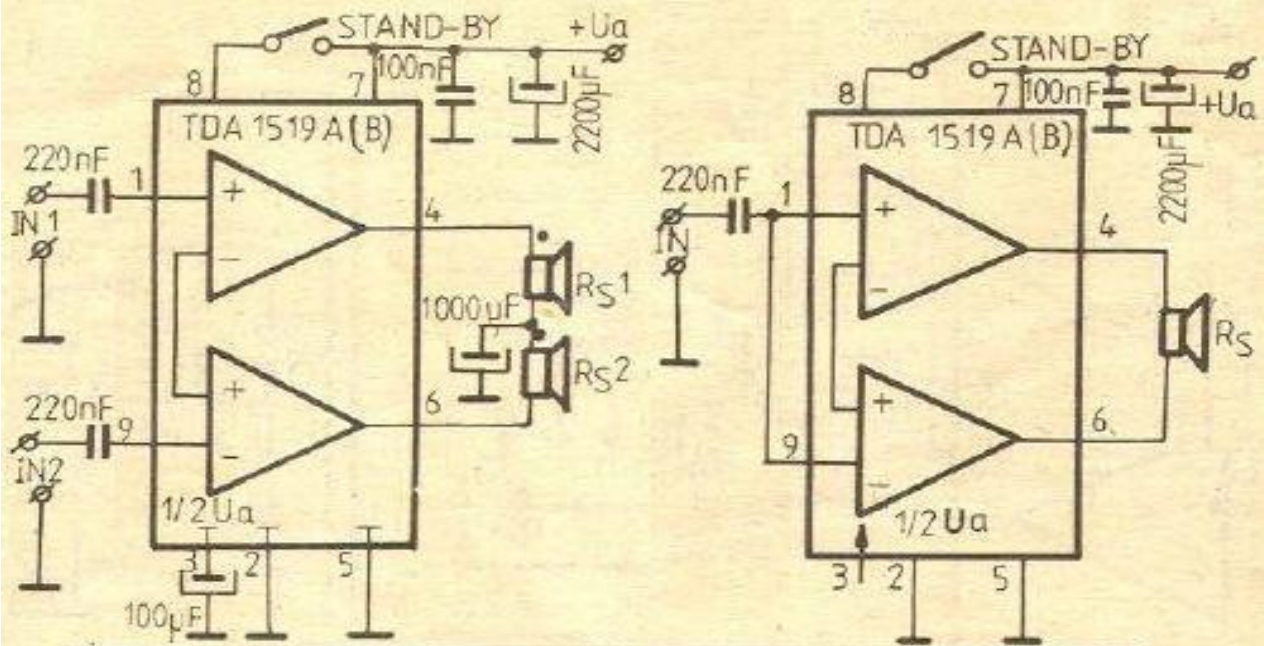
identice pin cu pin, ca și parametrii electrici, cu excepția câștigului în tensiune în buclă închisă (20 dB pentru TDA1517 și 40 dB pentru TDA1519 la $U_a = 14,4$ V și sarcină de 4 Ω).

Diferența între canale este sub 1 dB, iar rejectia sursei de mi-

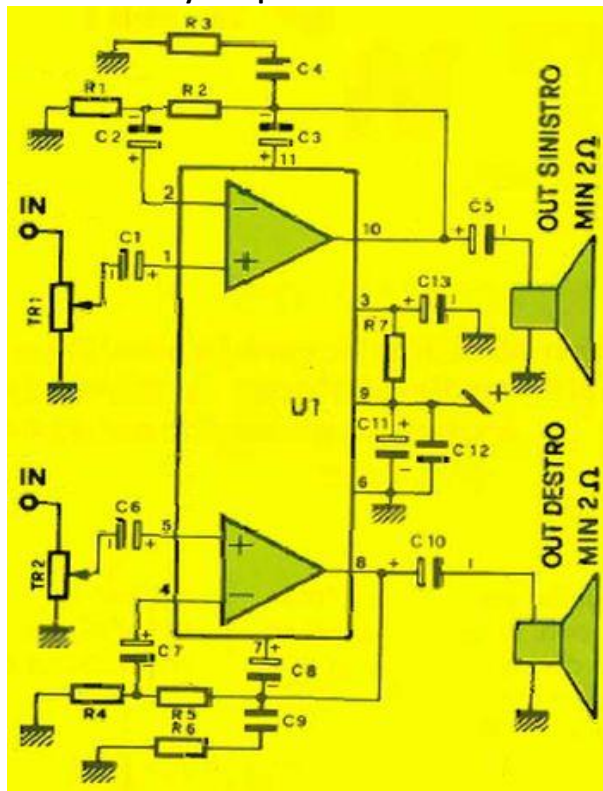
nimum 48 dB în intervalul 100 Hz la 10 kHz. Circuitul este prevăzut cu toată gama de protecții, inclusiv protecția la descărcări electrostatice. Restul facilităților sînt identice cu ale circuitelor TDA1516Q/TDA1518Q. Puterea livrată sarcinii este de 2 x 6 W la 14,4 V și sarcină de 4 Ω .



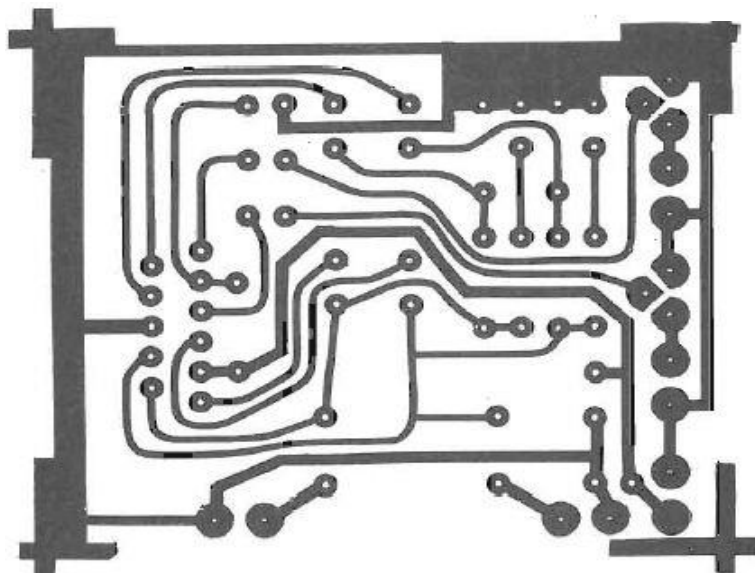
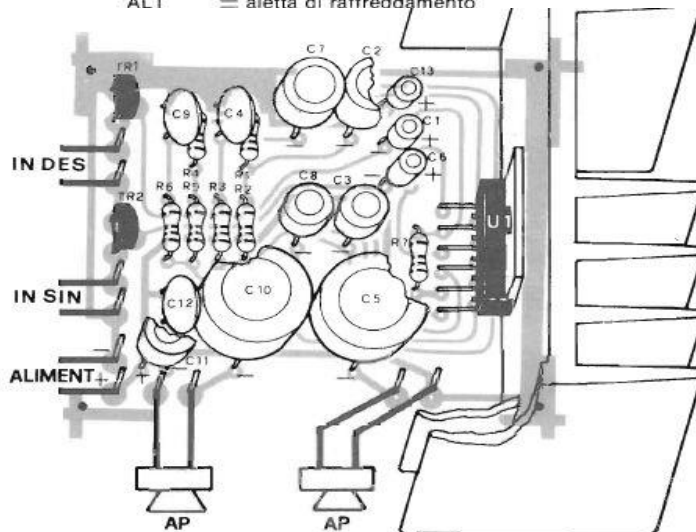
odyo ampli 6+6w 05-01 tda1519a



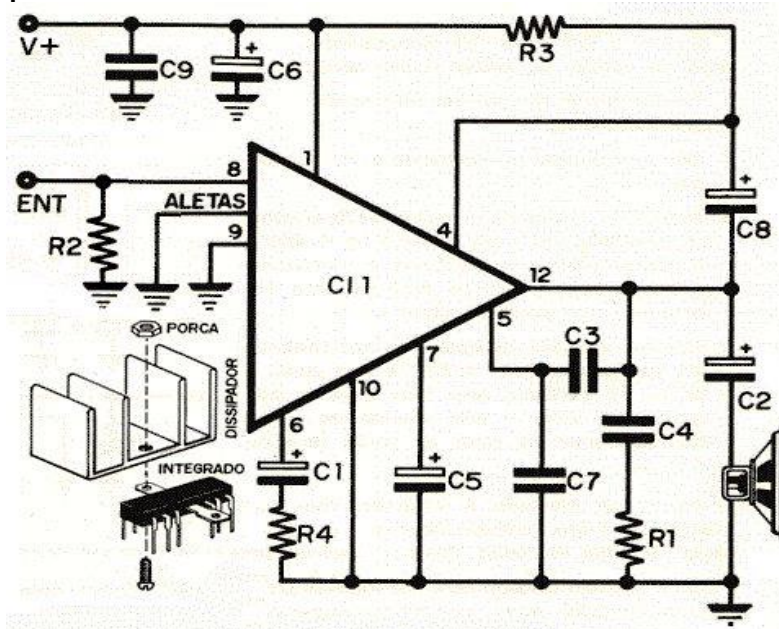
odyo ampli 6+6w 06-01 tda2004

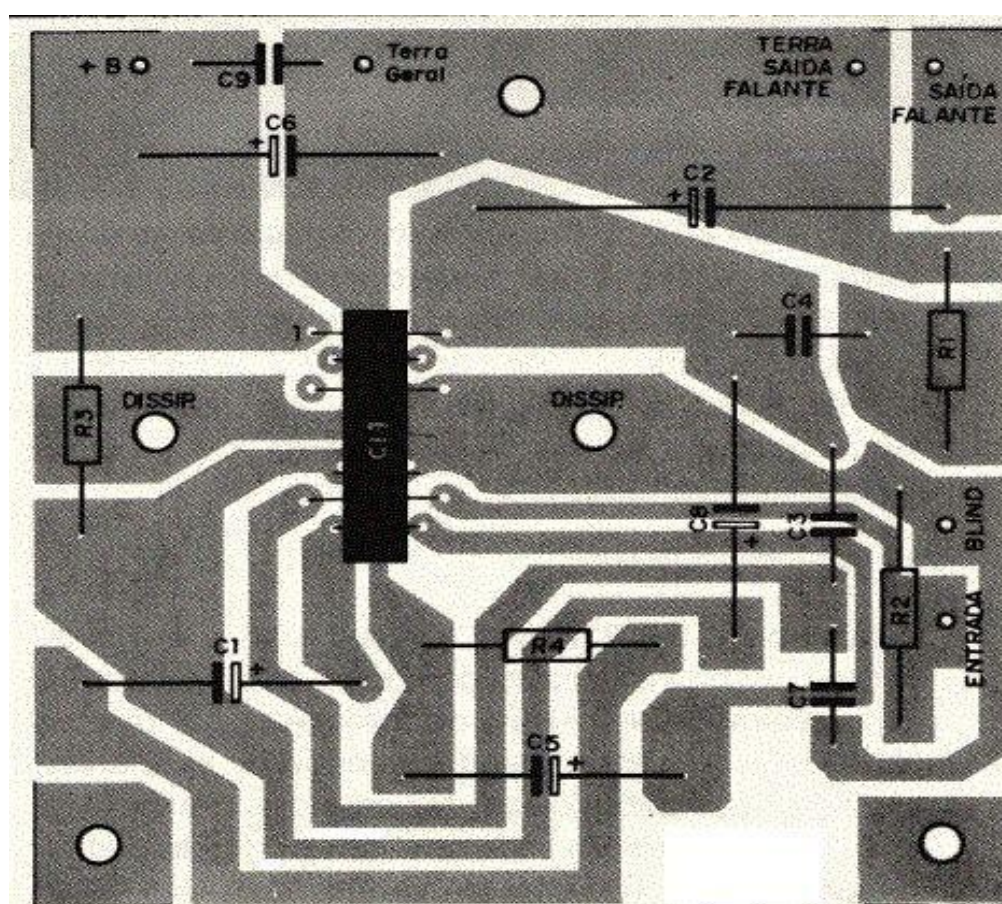
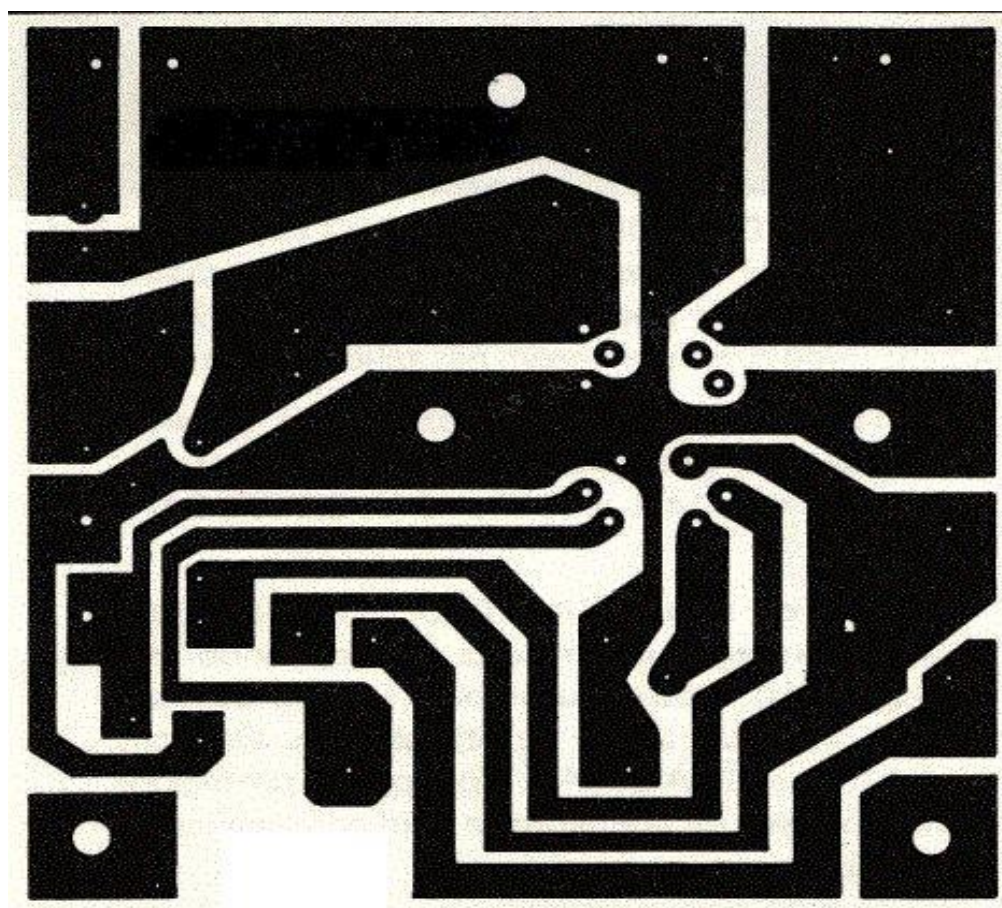


- TR1-TR2 = transistori da 47 kΩ ~
- R1-R2 = resistori da 3,3 Ω
- R4-R5 = resistori da 1,2 kΩ ~
- R3-R6 = resistori da 1 Ω
- R7 = resistore da 120 kΩ ~
- C1-C6 = condensatori elettrolitici da 2,2 μF ~
- C2-C7 = condensatori elettrolitici da 220 μF ~
- C3-C8 = condensatori elettrolitici da 100 μF ~
- C4-C9 = condensatori a disco da 100 nF
- C5-C10 = condensatori elettrolitici da 2200 μF
- C11 = condensatore elettrolitico da 100 μF
- C13 = condensatore elettrolitico da 10 μF
- AP1-AP2 = altoparlanti min. 10 W min 2 Ω
- U1 = TDA 2004
- AL1 = aletta di raffreddamento

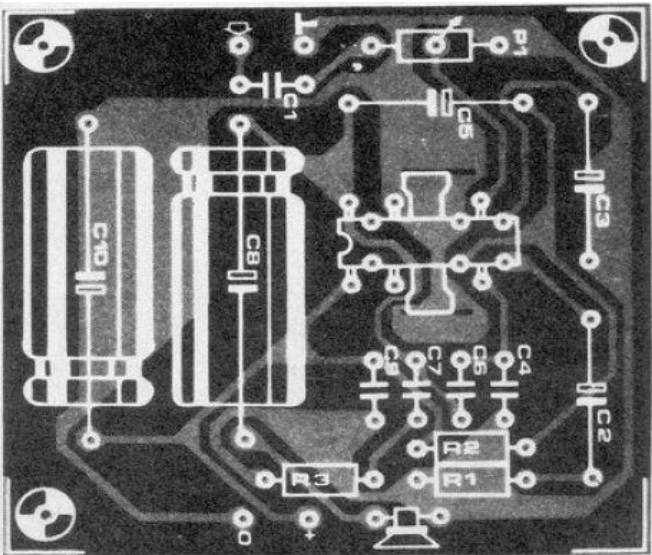
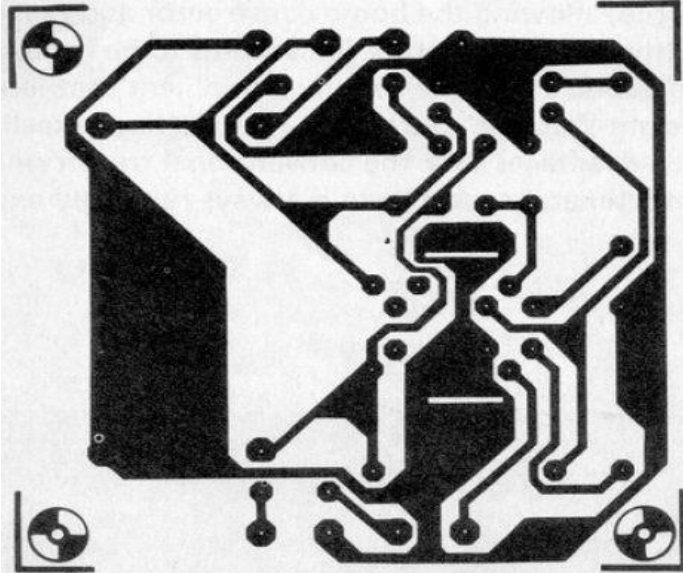
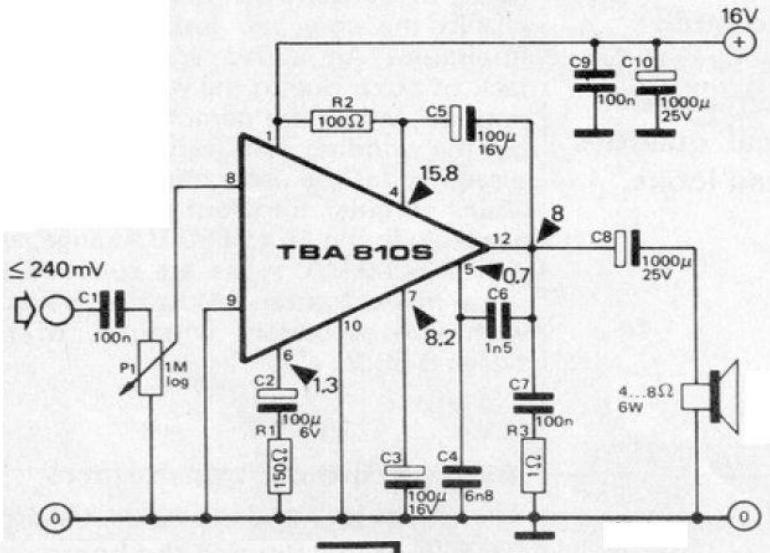


odyo ampli 6w 01-01 tba810

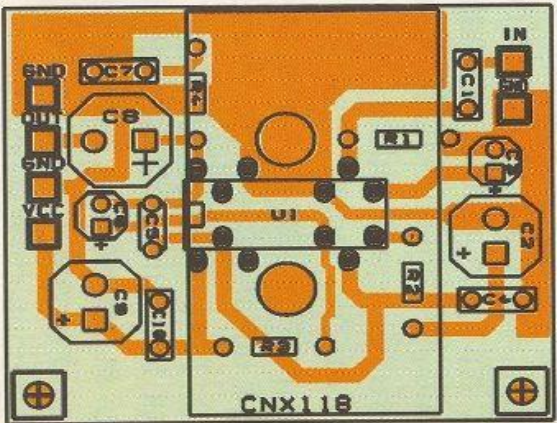
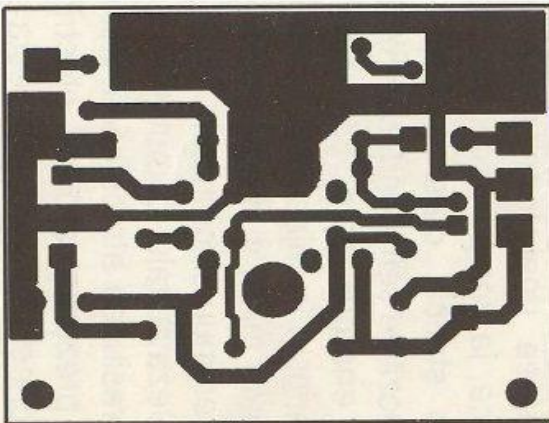
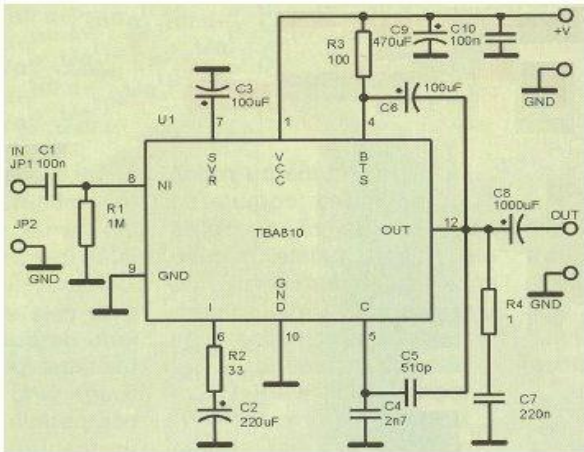




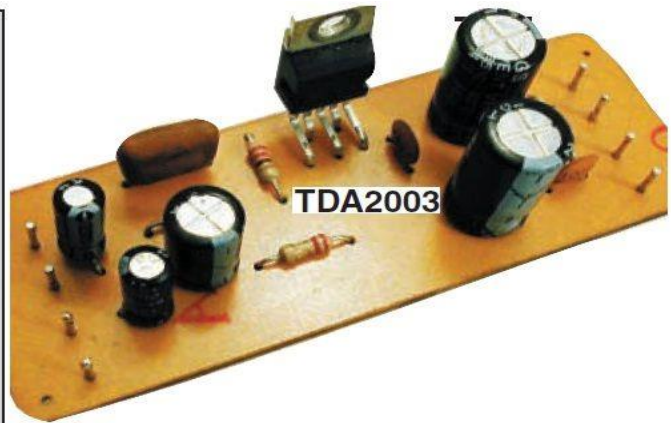
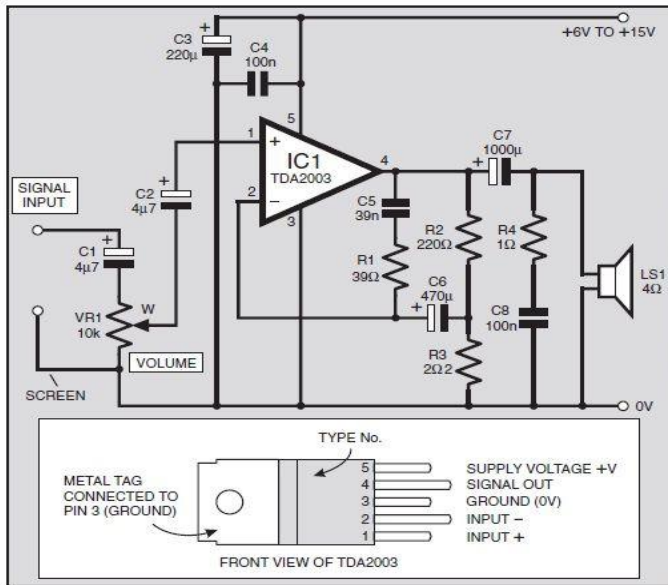
odyo ampli 6w 02-01 tba810



odyo ampli 6w 03-01 tba810



odyo ampli 6w 04-01 tda2003



Speaker Impedance Ohms	Supply Voltage		
	9V	12V	15V
2	2.25W	4W	5.75W
4	1.28W	2.6W	3.9W
8	720mW	1.44W	2.1W

COMPONENTS

TDA2003 AUDIO AMPLIFIER

Resistors

R1	39Ω
R2	220Ω
R3	2Ω
R4	1Ω

All 0.25W 5% carbon film

Potentiometers

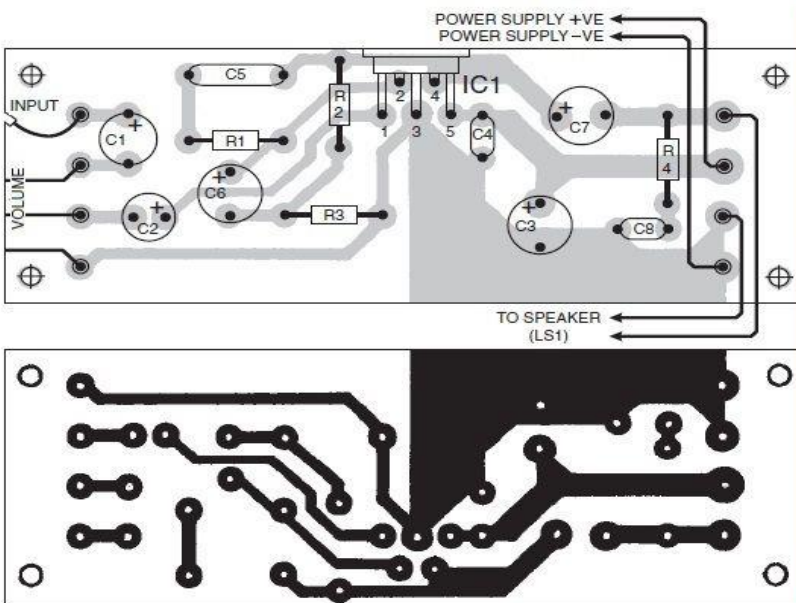
VR1	10k rotary carbon, log.
-----	-------------------------

Capacitors

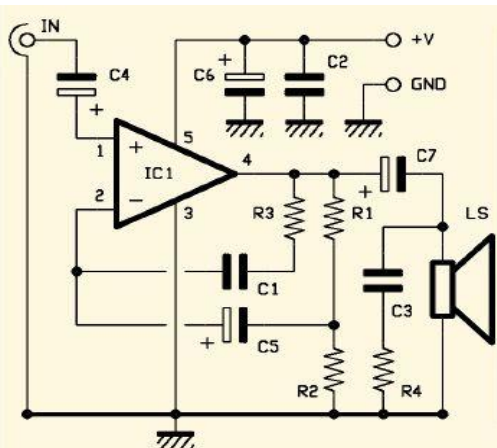
C1, C2	4μF radial elect. 50V
C3	220μF radial elect. 50V
C4	100nF disc ceramic
C5	39nF polyester
C6	470μF radial elect. 50V
C7	1000μF radial elect. 50V
C8	100nF polyester

Semiconductor

IC1	TDA2003 audio power amp i.c.
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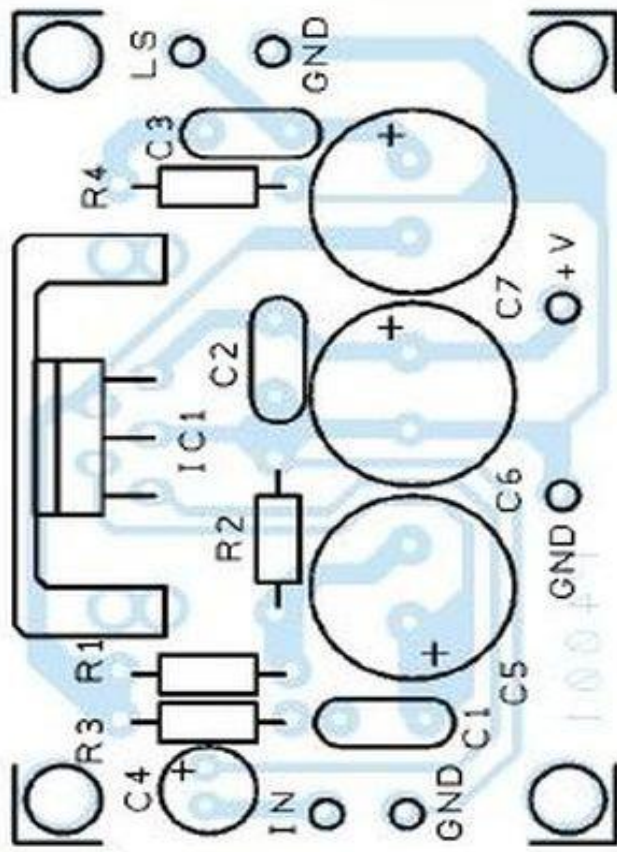
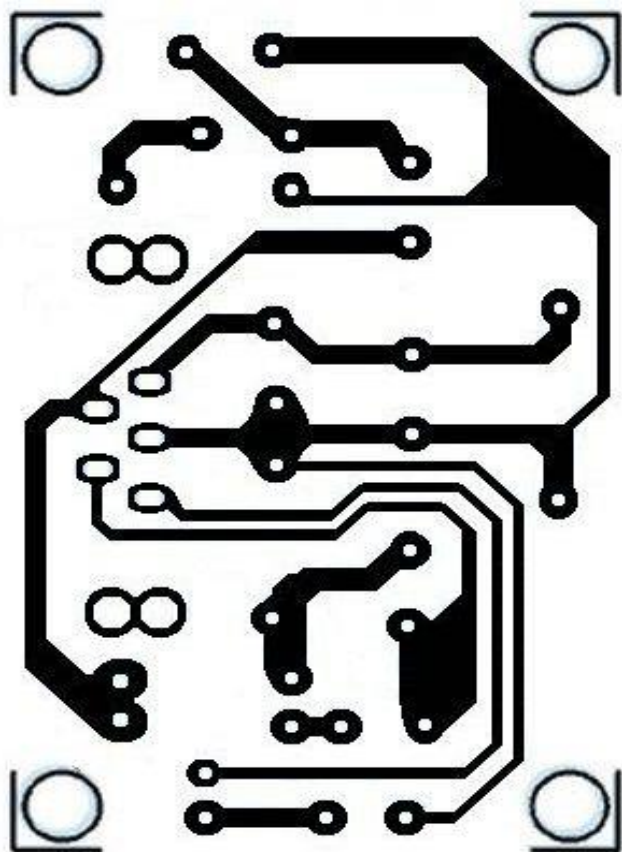


odyo ampli 7w 01-01 tda2003

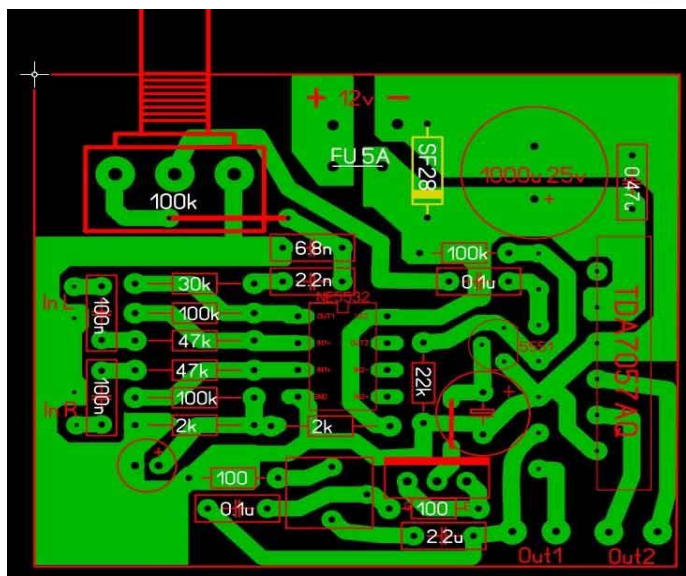
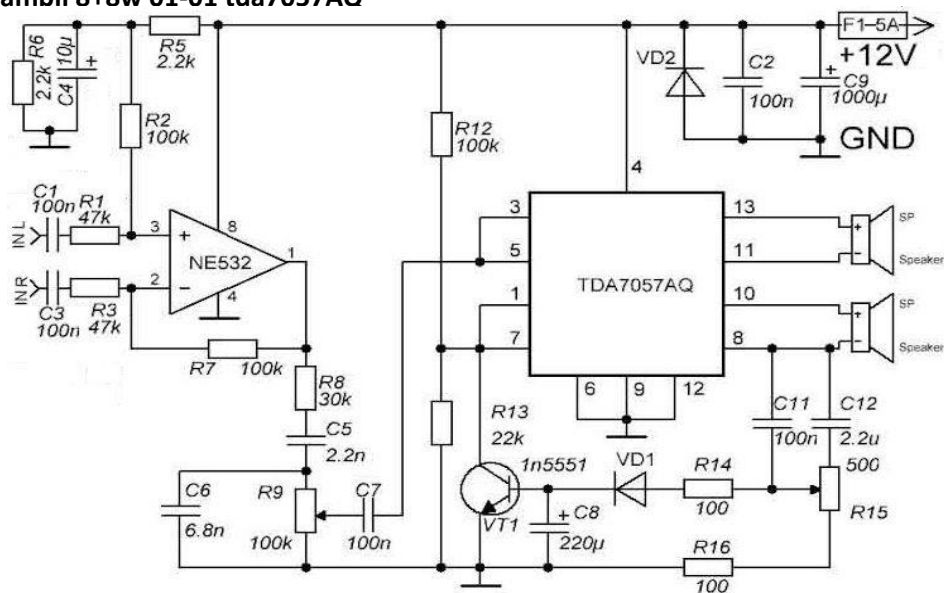


R1:	470 ohm
R2:	4,7 ohm
R3:	100 ohm
R4:	1 ohm
C1:	8,2 nF ceramico
C2:	100 nF multistrato
C3:	100 nF multistrato
C4:	10 μF 63VL elettrolitico
C5:	470 μF 25VL elettrolitico
C6:	1000 μF 25VL elettrolitico
C7:	1000 μF 25VL elettrolitico
IC1:	TDA2003

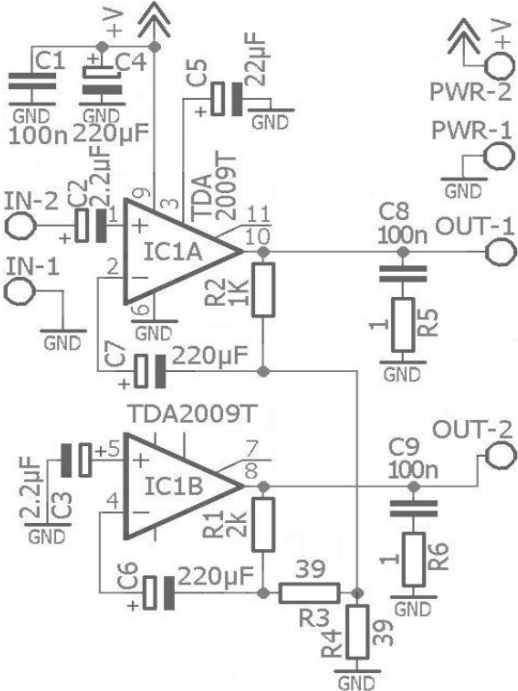




odyo ampli 8+8w 01-01 tda7057AQ



odyo ampli 10+10w 01-01 tda2009



Resistors

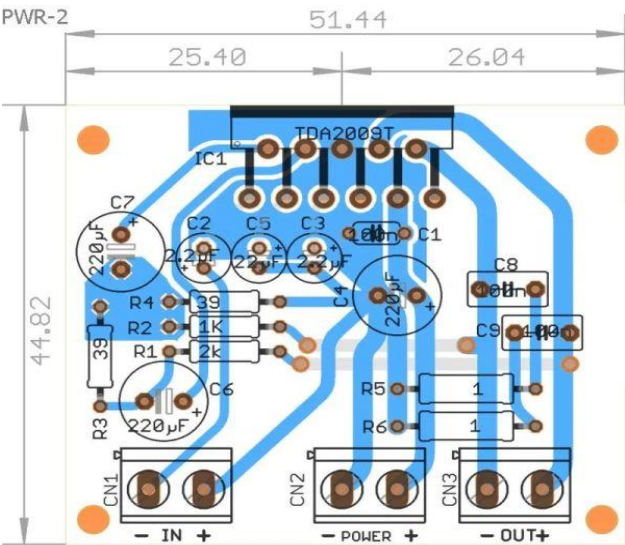
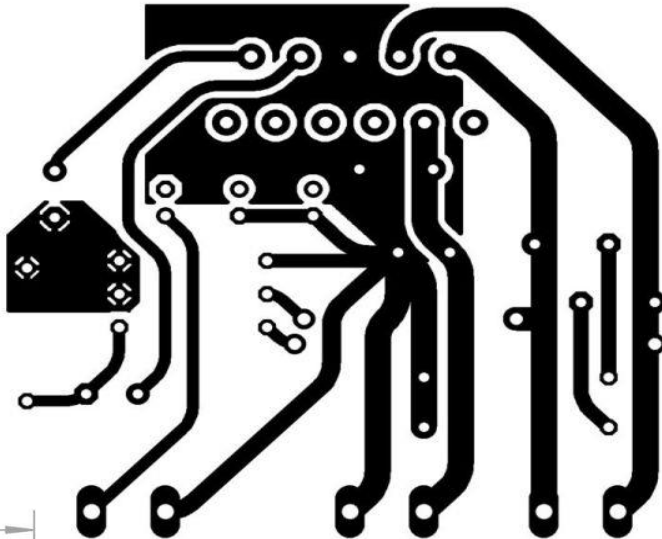
R1 2k or 2.2K
R2 1K
R3, R4 39 Ohms
R5, R6 1 Ohms

Capacitors

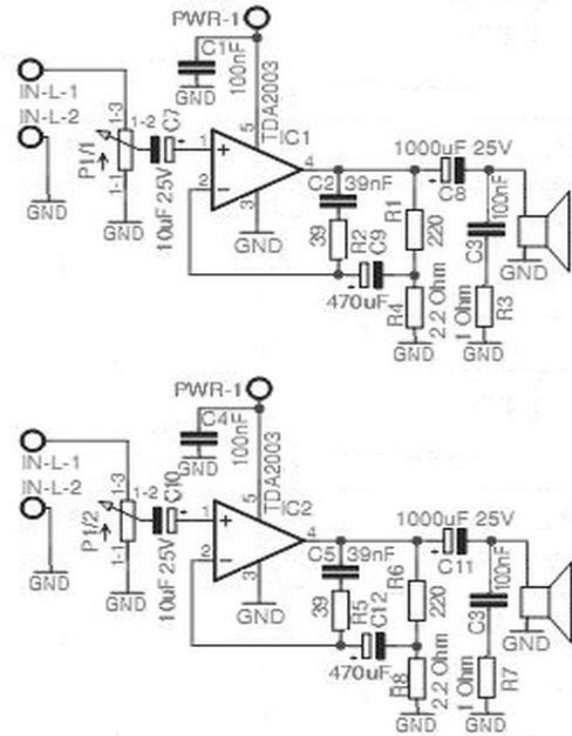
C1 100n
C2, C3 2.2µF /25V
C4, C6, C7 220µF /25V
C5 22µF/25V
C8, C9 100n

Semiconductors

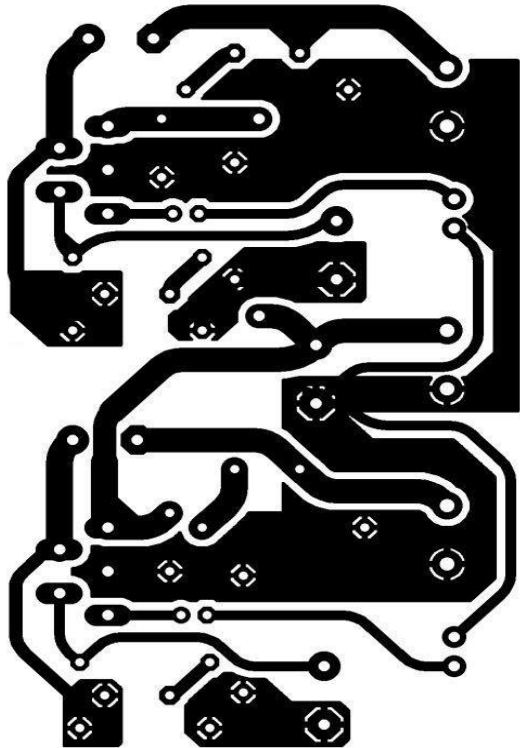
IC1 TDA2009



odyo ampli 10+10w 02-01 tda2003

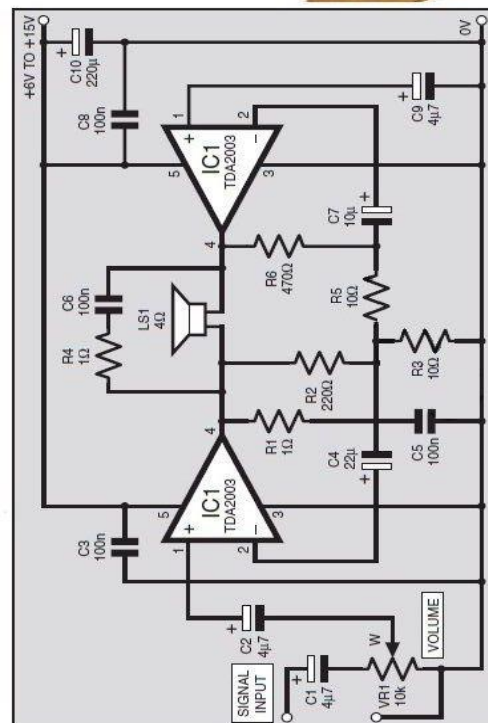
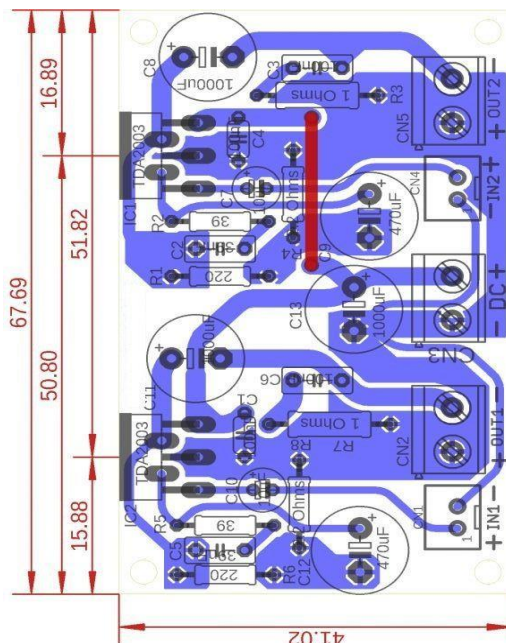
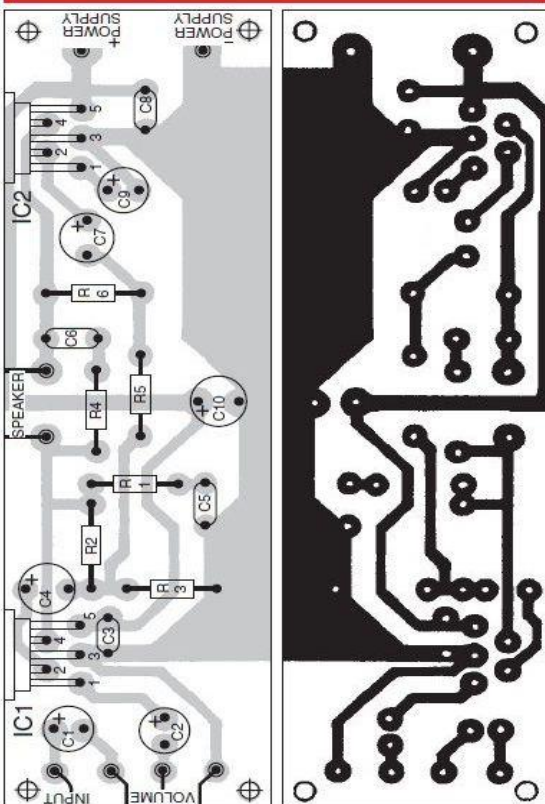


Componente	Valor	Descrição	Quantidade
Capacitores			
C1, C4	100nF (104)	Capacitor cerâmico	2
C3, C6	100nF/63V (104)	Capacitor filme	2
C2, C5	39nF/63V	Capacitor filme	2
C7, C10	10µF/25V	Capacitor eletrolítico	2
C8, C11, C13	1000µF/25V	Capacitor eletrolítico	3
C9, C12	470µF/25V	Capacitor eletrolítico	2
Diversos			
CN1	IN1 (Entrada 1)	Conector Jst Xh 2 Vias Passo 2,54 mm ou equivalente.	1
CN2	OUT1 (Saída 1)	Borne Conector KRE 2 Vias 5,08 mm.	1
CN3	DC (Alimentação)	Borne Conector KRE 2 Vias 5,08 mm.	1
CN4	IN2 (Entrada 2)	Conector Jst Xh 2 Vias Passo 2,54 mm ou equivalente.	1
CN5	OUT2 (Saída 2)	Borne Conector KRE 2 Vias 5,08 mm.	1
Semicondutores			
IC1, IC2	TDA2003	Circuito integrado amplificador de áudio.	2
Resistores 1/4W 5%			
R1, R6	220 Ohms	Vermelho, Vermelho, Marrom, Ouro.	2
R2, R5	39 Ohms	Laranja, Branco, Preto, Ouro.	2
R3, R7	1 Ohm 1W	Ouro Preto, Ouro, Ouro.	2
R4, R8	2.2 Ohms	Vermelho, Vermelho, Ouro, Ouro.	2

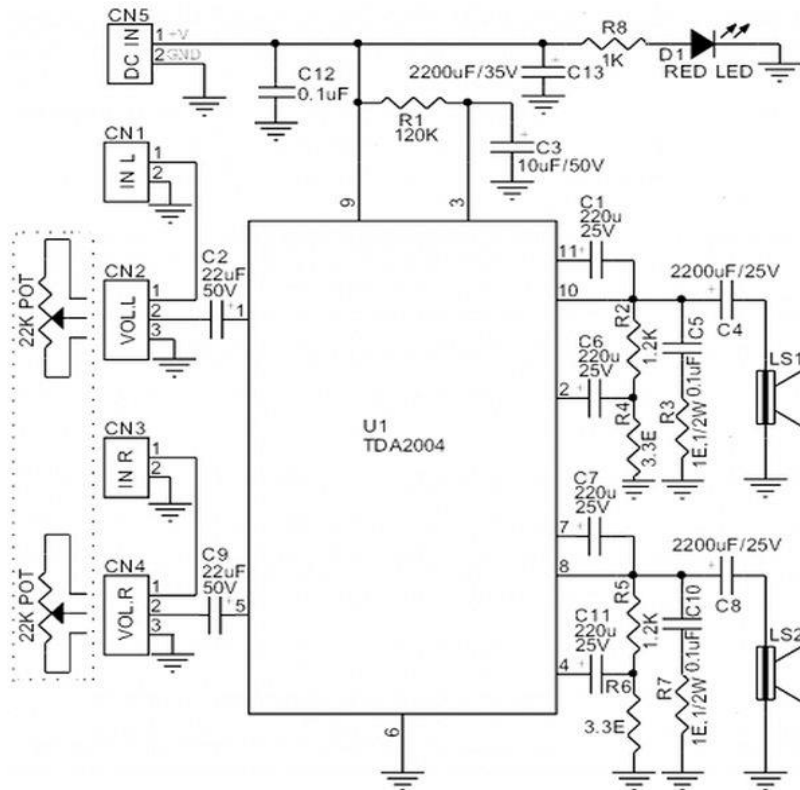


odyo ampli 10+10w 03-01 tda2003

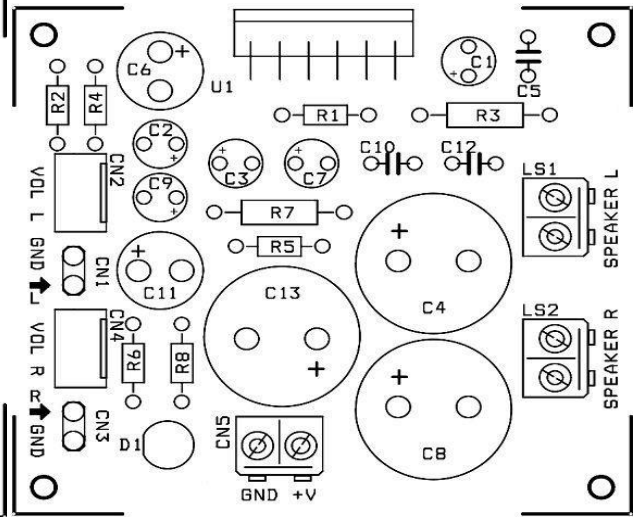
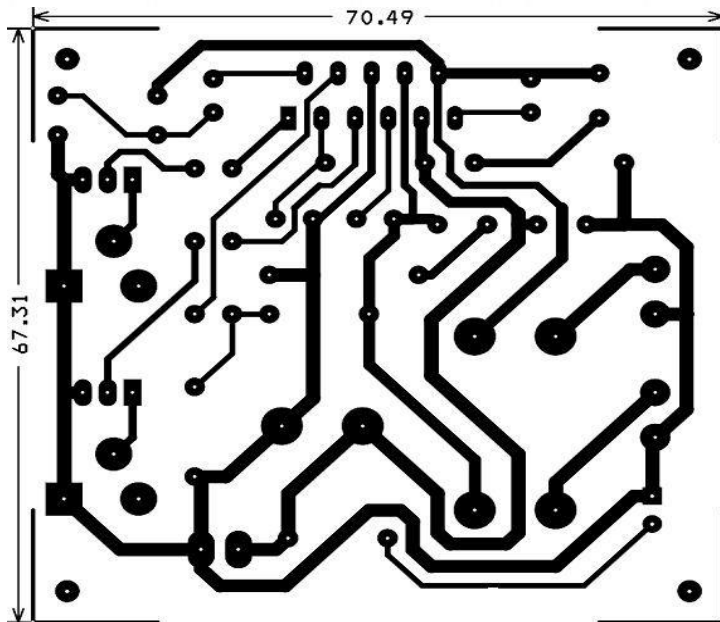
Resistors	
R1, R4	1Ω
R2	220Ω
R3, R5	10Ω
R6	470Ω
Potentiometers	
VR1	10k rotary carbon
Capacitors	
C1, C2	4μ7 radial elect. 50V
C3, C8	100n disc ceramic
C4	22μ radial elect. 50V
C5, C6	100n polyester (2 off)
C7	10μ radial elect. 50V
C10	220μ radial elect. 50V
Semiconductor	
IC1, IC2	TDA2003 audio power amp i.c.
Miscellaneous	
LS1	2 to 8 ohm loudspeaker



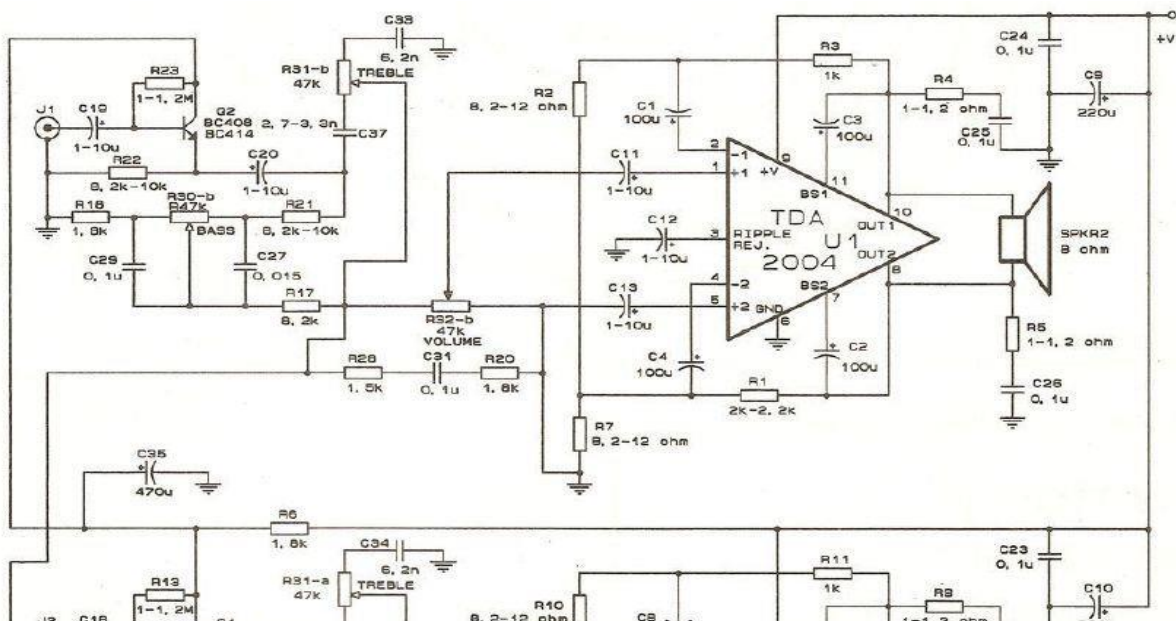
odyo ampli 10+10w 04-01 tda2004

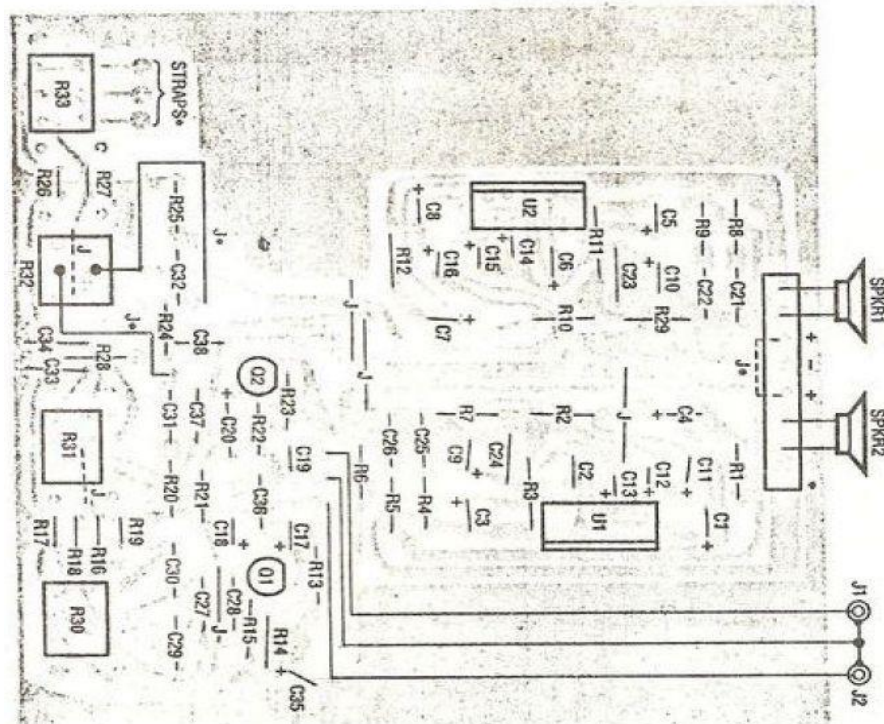
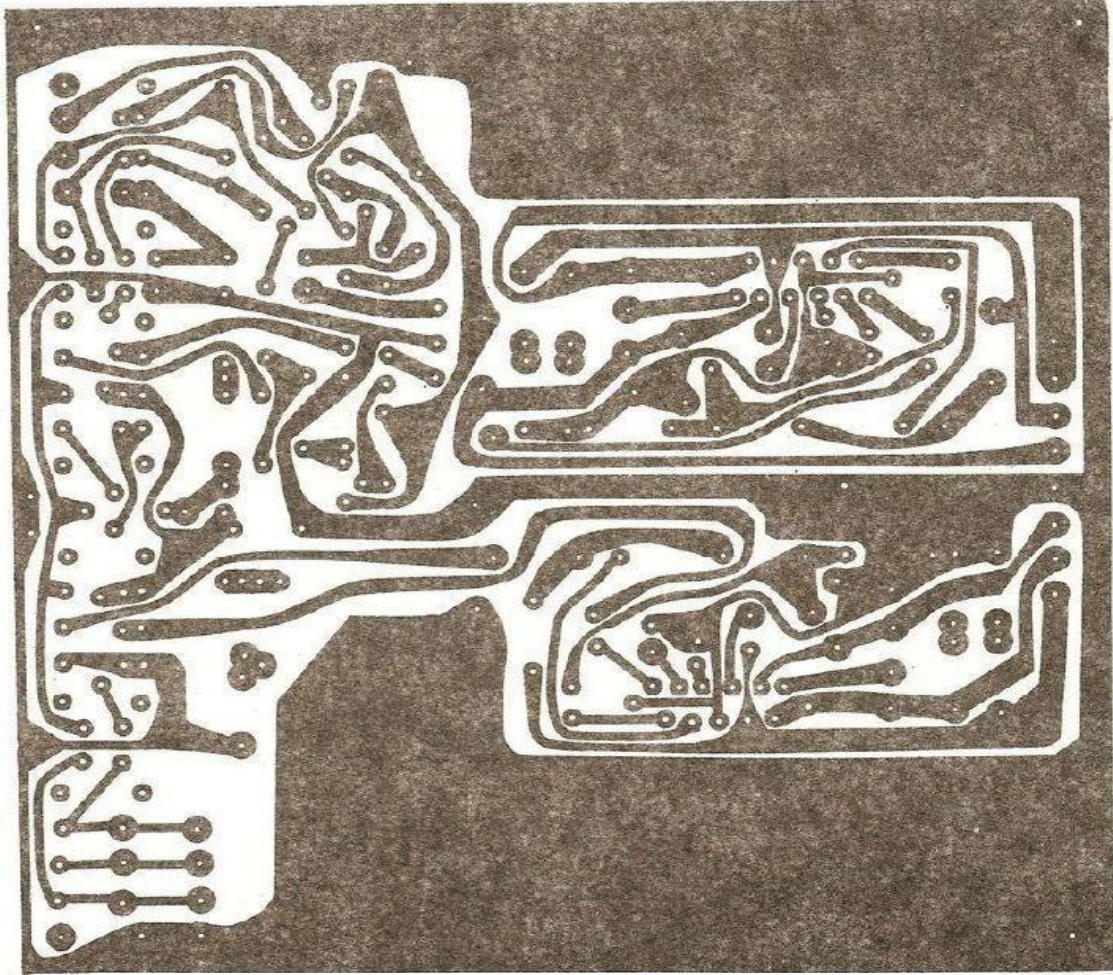
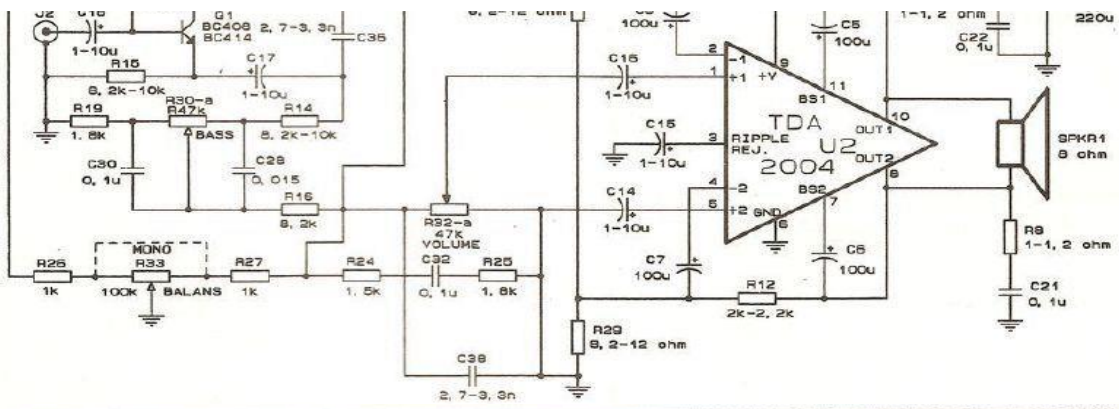


SR.	QNY.	REF.	DISC.
1	1	CN1	2 PCB PIN
2	1	CN2	22K POT + 3PIN RELIMATE
3	1	CN3	2 PCB PINS
4	1	CN4	22K POT + 3PIN RELIMATE
5	1	CN5	2 PIN PBT CONNECTOR
6	4	C1,C6,C7,C11	220uF/25V
7	2	C2,C9	22uF/50V
8	1	C3	10uF/50V
9	2	C4,C8	2200uF/25V
10	3	C5,C10,C12	0.1uF
11	1	C13	2200uF/35V
12	1	D1	RED LED
13	1	LS1	2 PIN PBT CONNECTOR
14	1	LS2	2 PIN PBT CONNECTOR
15	1	R1	120K
16	2	R2,R5	1.2K
17	2	R3,R7	1E, 1/2W
18	2	R4,R6	3.3E
19	1	R8	1K
20	1	U1	TDA2004
21	1	HEATSINK	HS01072
22	1	SCREW	SC02909
23	4	SCREW	SC02905
24	4	STUD	ST05008

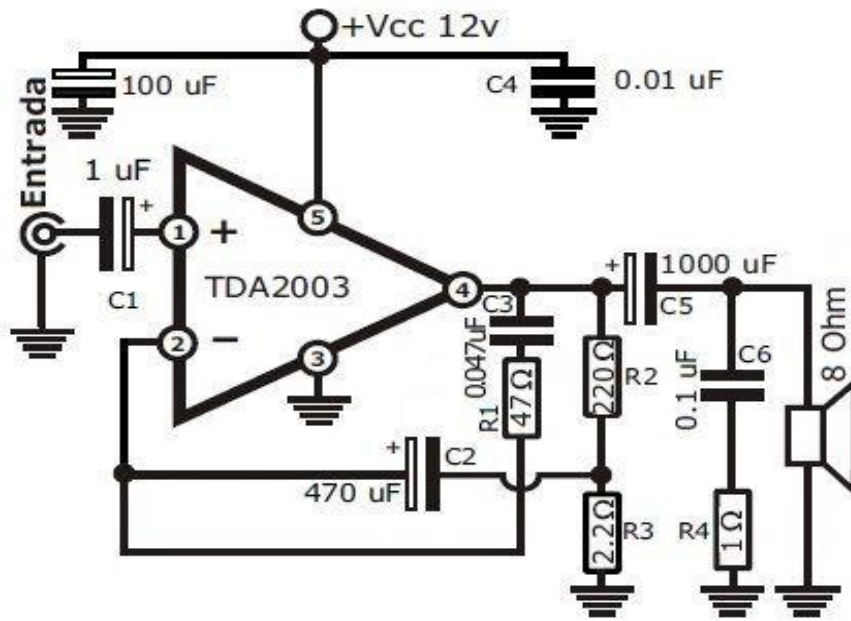


odyo ampli 10+10w 05-01 tda2004





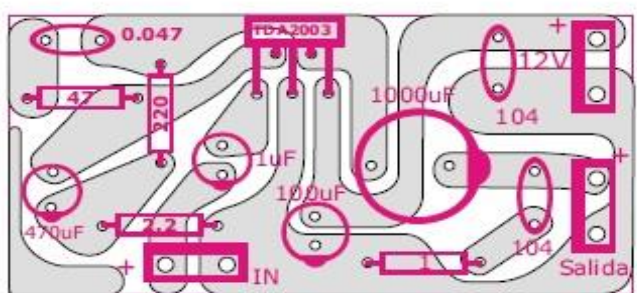
odyo ampli 10+10w 06-01 tda2003



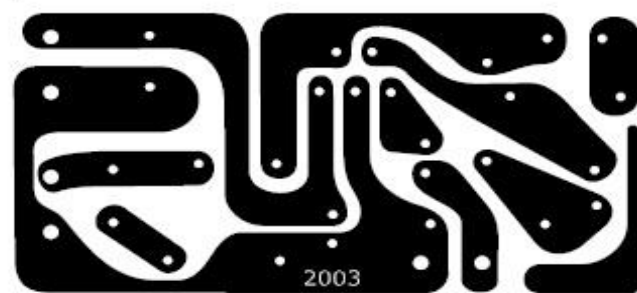
Componentes y sus valores sugeridos

COMPONENTES	VALORES SUGERIDOS	PROPÓSITO	VALOR MAYOR QUE EL PROPUESTO	VALOR MENOR QUE EL PROPUESTO
R1	47 Ohm	Frecuencia de corte Alta	Frecuencias altas deficientes atenuación	Peligro de oscilación
R2	220 Ohm	Garantiza de retroalimentación	Aumenta la ganancia	Aumento del consumo de corriente
R3	2.2 Ohm	Configuración de la ganancia y SVR	Degradación del SVR	-
R4	1 Ohm	Red de Zobel o bloqueo de oscilación	Posible oscilación en frecuencias altas	Recorte de las frecuencias bajas
C1	1 uF	Desacople de entrada DC	Aumenta el pop al encender	-
C2	470 uF	Rechazo de rizado	-	Degradación de SVR
C3	0.047 uF	Frecuencia de corte Alta	Menor ancho de banda	Mayor ancho de banda
C4	0.1 uF	Derivación tensión de la alimentación	-	Peligro de oscilación
C5	1000 uF	Desacople de salida	-	Recorte de las frecuencias bajas
C6	0.1 uF	Red de Zobel o bloqueo de oscilación	Posible oscilación y desestabilización	No protege el circuito de posibles oscilaciones

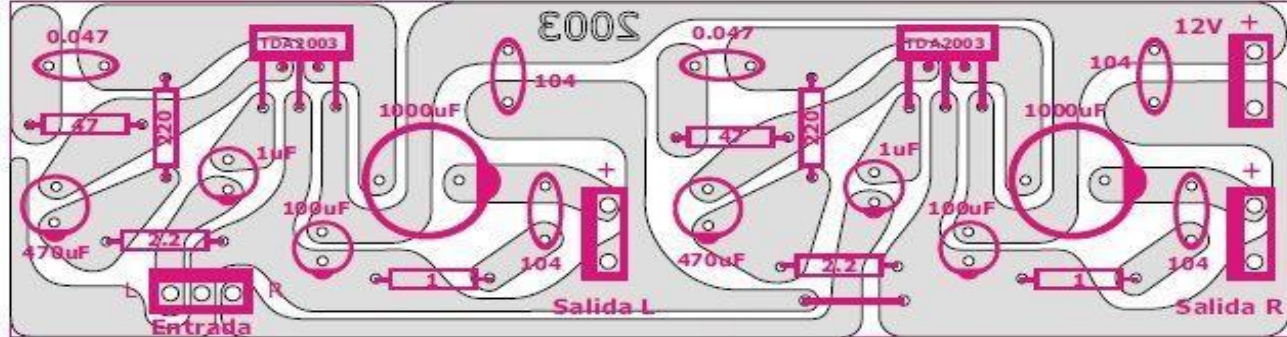
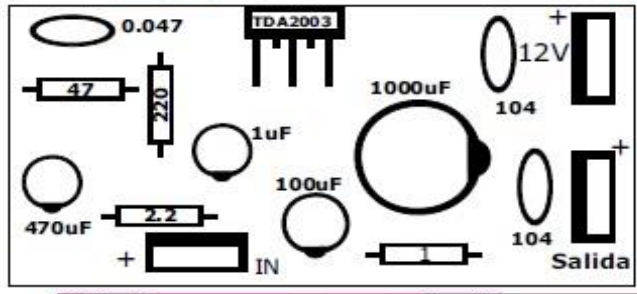
5.8 cm



2.9 cm



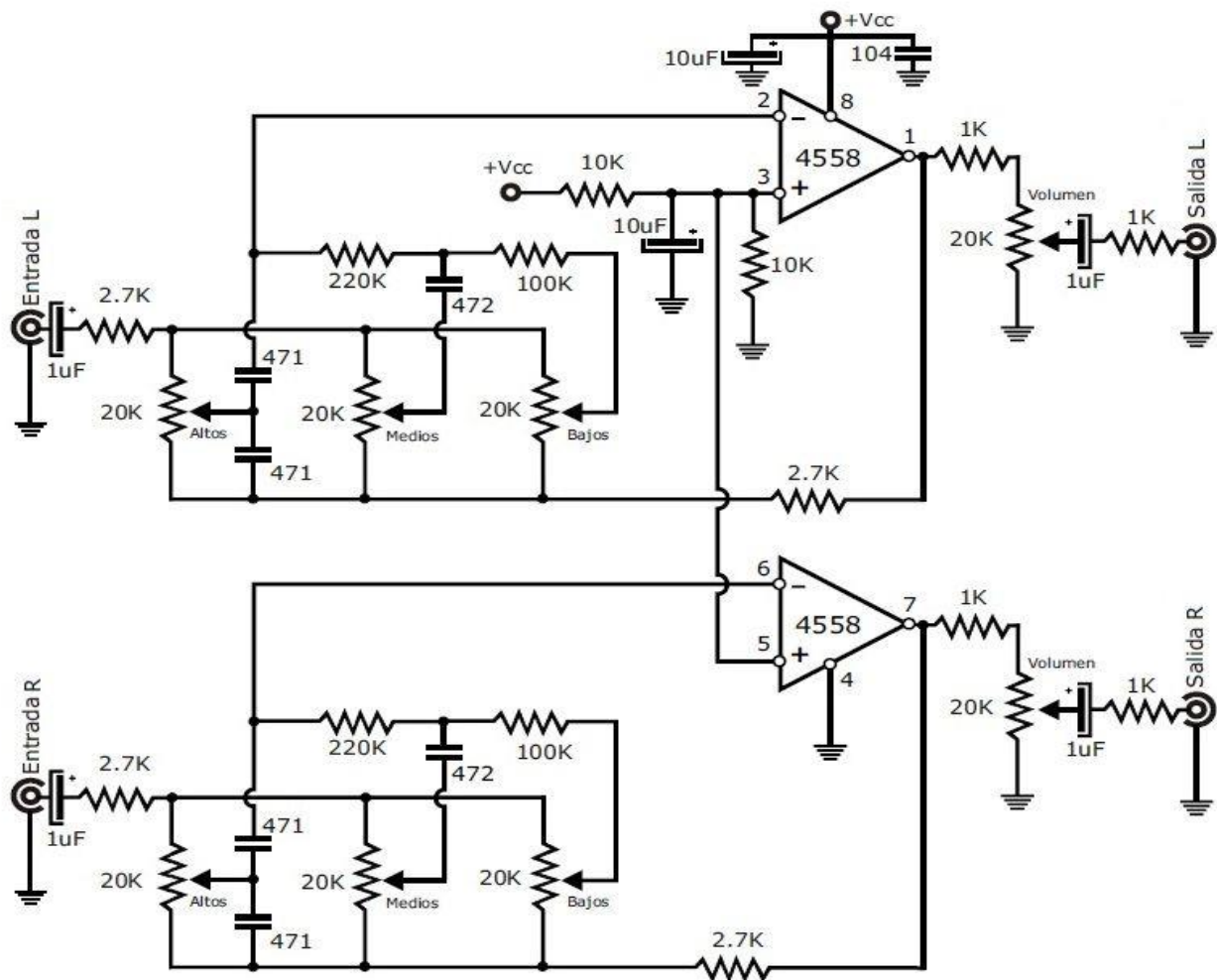
10W con TDA2003



11.6 cm



3.4 cm



Integrados

2 TDA2003
1 C4558

Resistencias de 1/4W

2 resistencias de 47 ohmios
2 resistencias de 2.2 ohmios
2 resistencias de 220 ohmios
2 resistencias de 1 ohmios 1/2W
4 resistencias de 1K
2 resistencias de 10K

4 resistencias de 2.7K

2 resistencias de 100K

2 resistencias de 220K

1 resistencia de 2.2K

Condensadores de 16 voltios

2 Condensadores de 1000 uF

2 Condensadores de 470 uF

2 Condensadores de 100 uF

6 Condensadores de 1 uF

1 Condensador de 10 uF

2 Condensadores de 0.047 uF (473) poliéster

4 Condensadores de 0.1 uF (104) poliéster

1 Condensador de 0.1 uF (104) cerámico

2 Condensadores de 0.0047 uF (472) poliéster

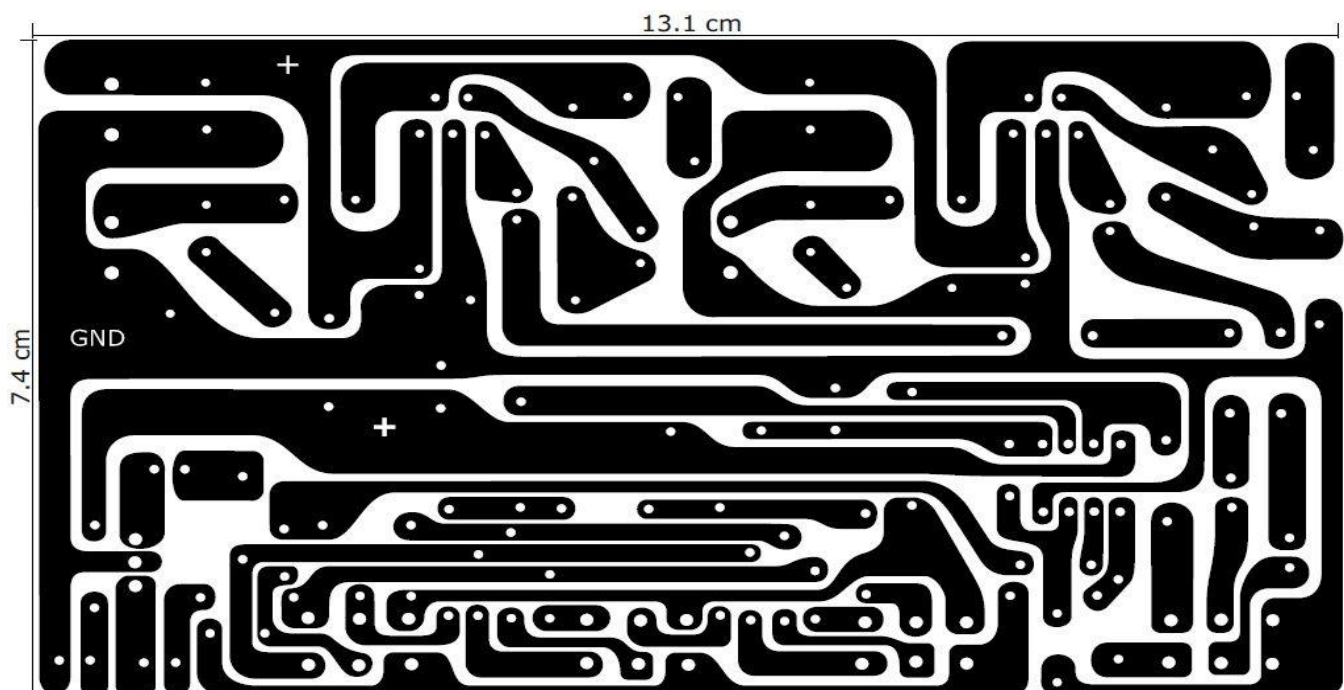
4 Condensadores de 470 pF (471) cerámico

Varios

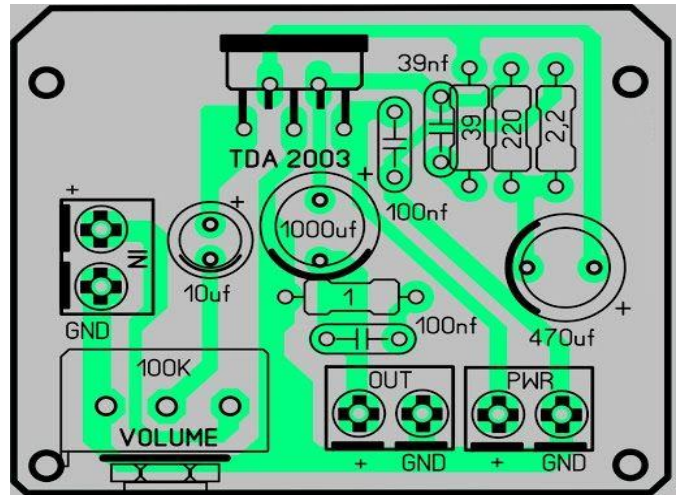
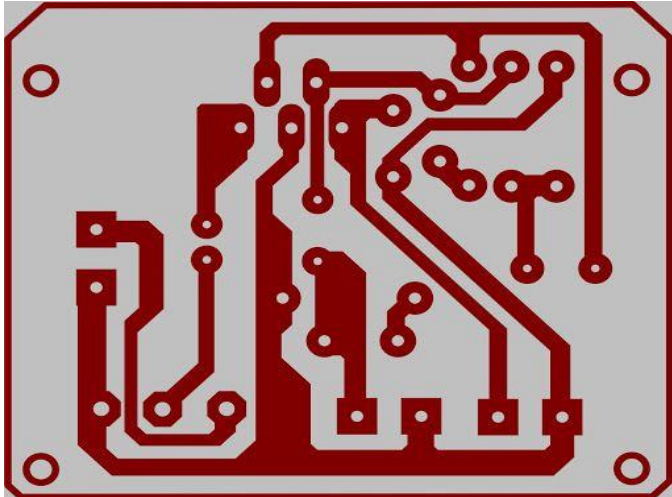
4 potenciómetros dobles de 20K

1 LED rojo

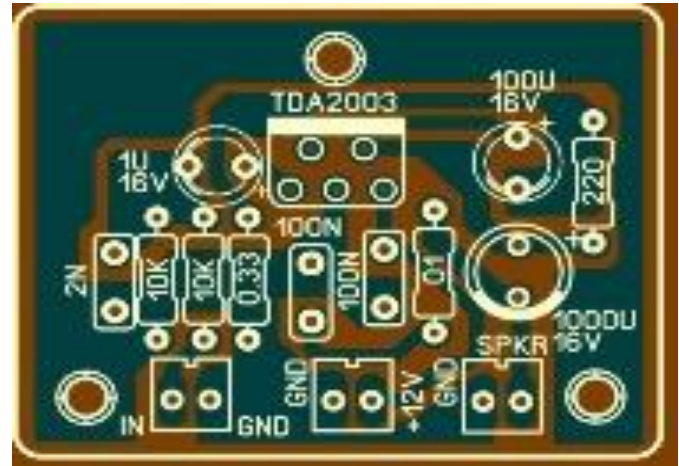
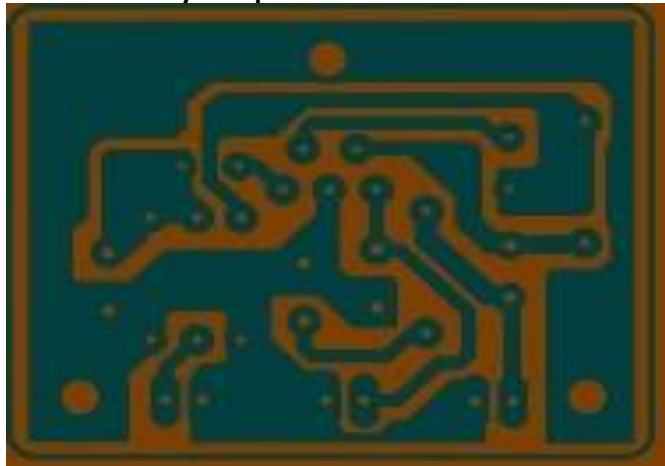
1 porta fusible y fusible de 2 amperios



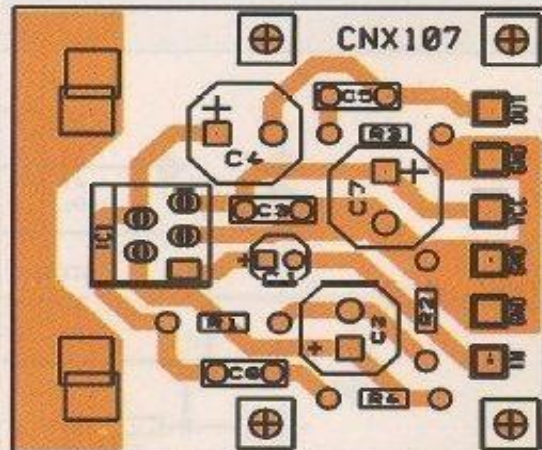
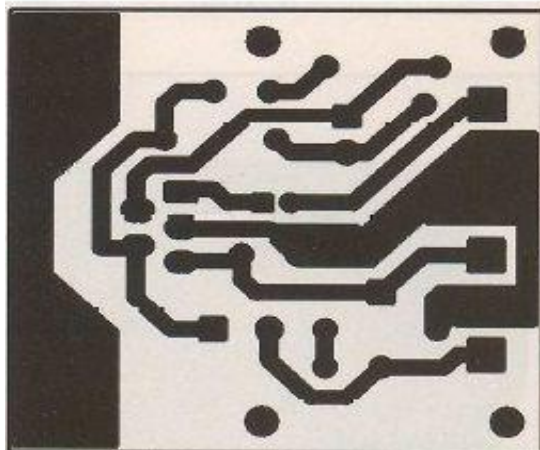
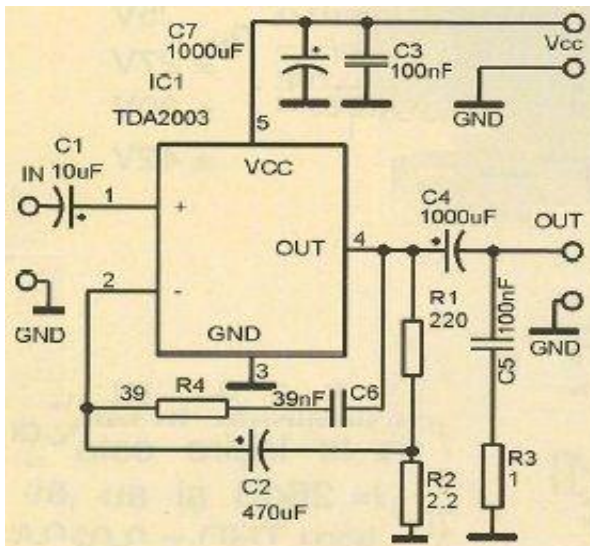
odyo ampli 10w 01-01 tda2003



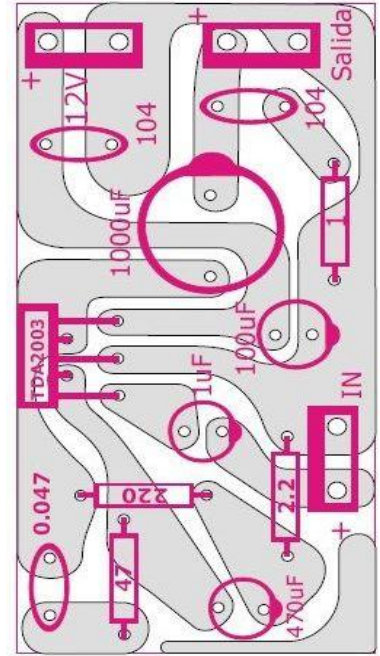
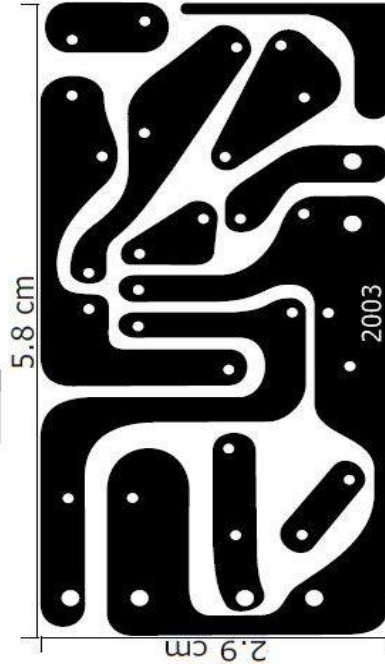
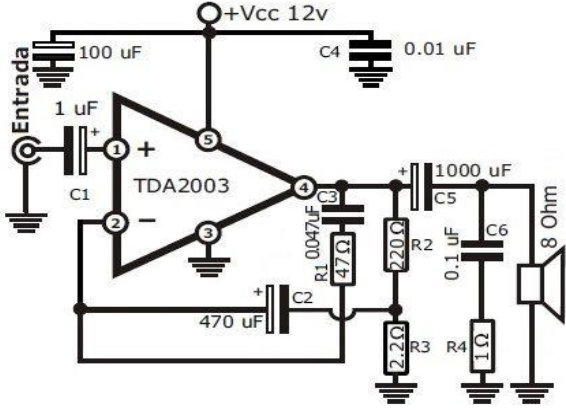
odyo ampli 10w 02-01 tda2003



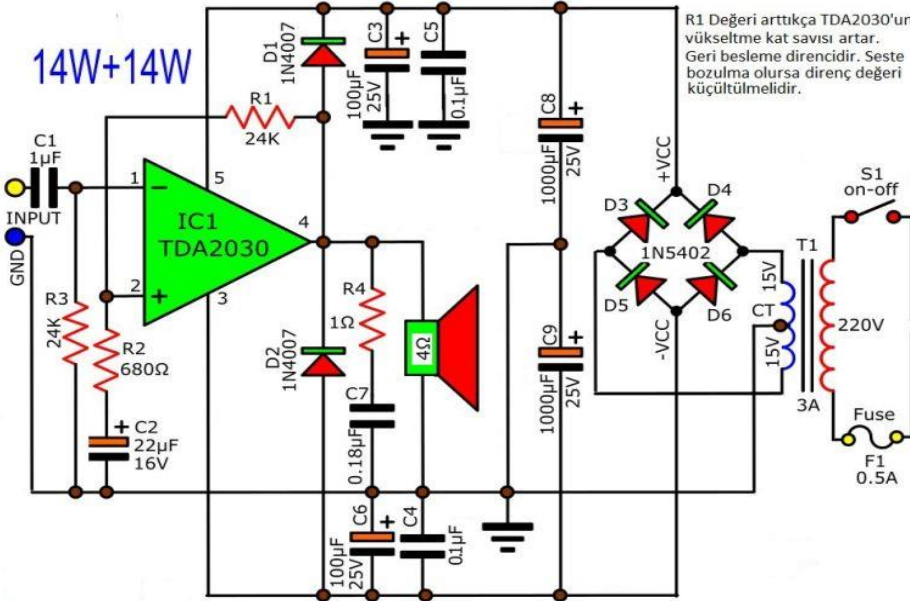
odyo ampli 10w 03-01 tda2003



odyo ampli 10w 04-01 tda2003



odyo ampli 14+14w 01-01 tda2030

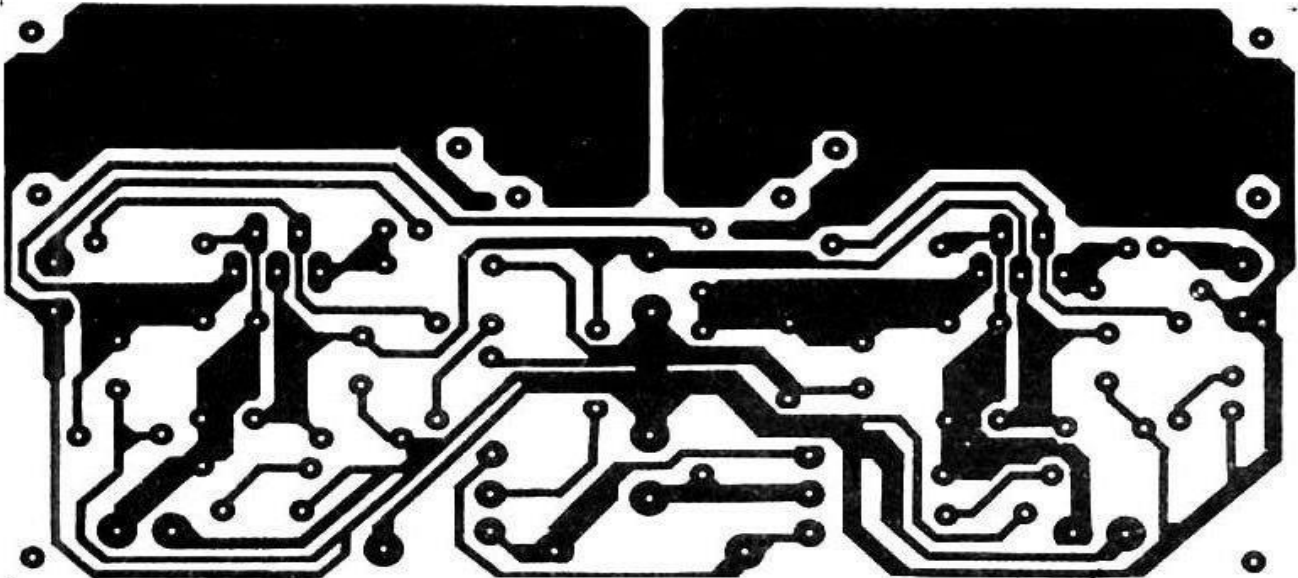


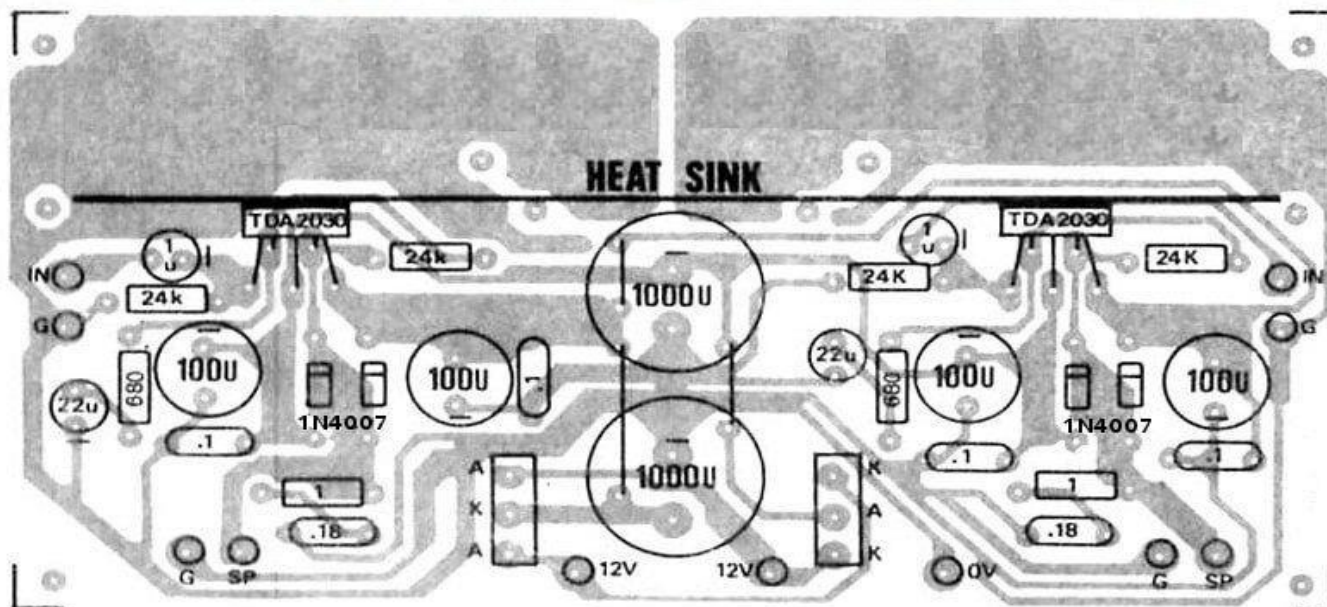
MONO formu
 IC1: TDA2030 18 W hi-fi amplifikatör ve 35 W sürücü
 D1, D2: 1N4007, 1000 V 1A diyotlar
 D3-D6: 1N5402, 200 V 3A diyotlar

Kapasitörler
 C1: 1 uF 50 V elektrolitik
 C2: 22 uF 16 V elektrolitik
 C3: C6: 100 uF 25 V elektrolitik
 C4, C5: 0.1 uF 50 V Mylar
 C7: 0.18 uF 50 Mvlar
 C8, C9: 1000 uF 25 V elektrolitik

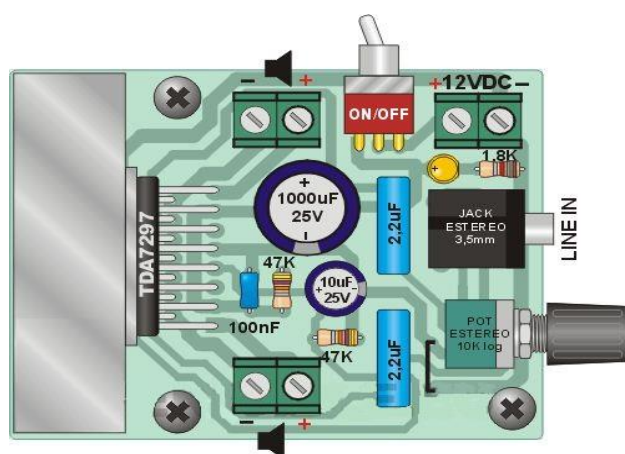
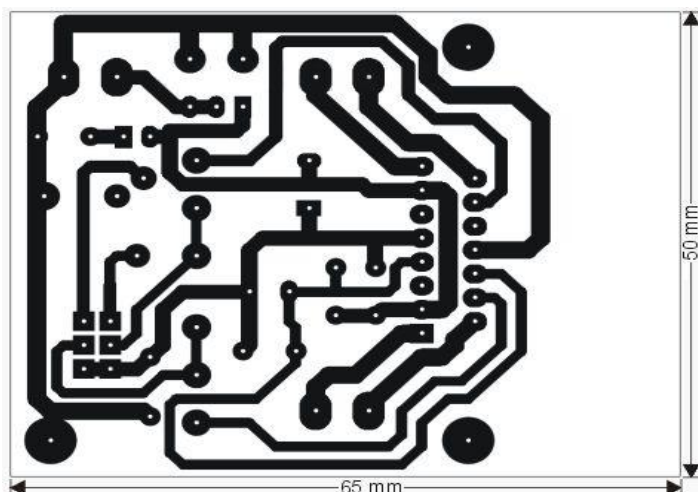
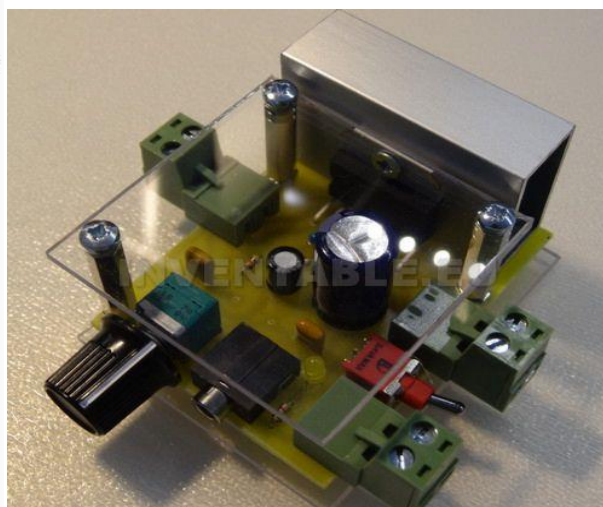
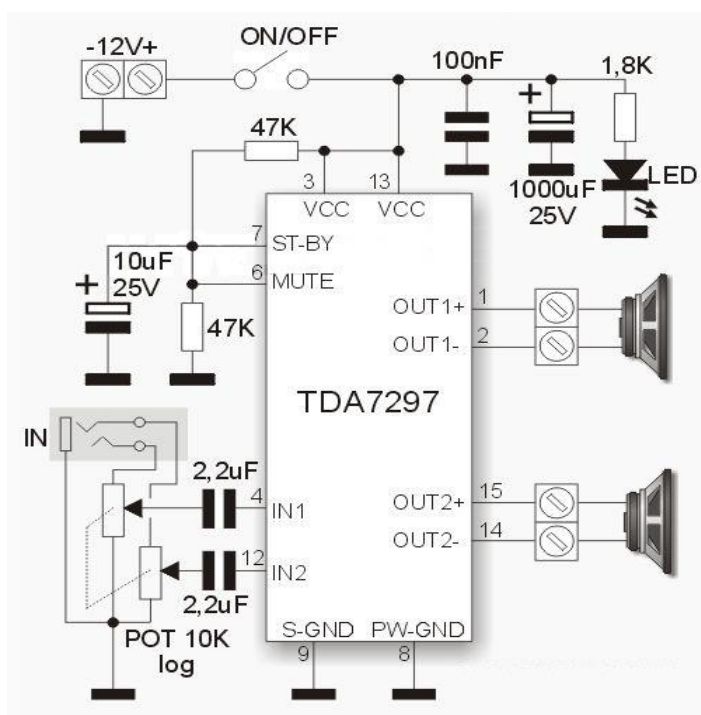
dirençler 0.25 W tolerans: 5%
 R1, R3: 24K
 R2: 680Ω
 R4: 1Ω

R1 Değeri arttıkça TDA2030'un yükseltme kat sayısı artar. Geri besleme direncidir. Seste bozulma olursa direnç değeri küçültülmelidir.

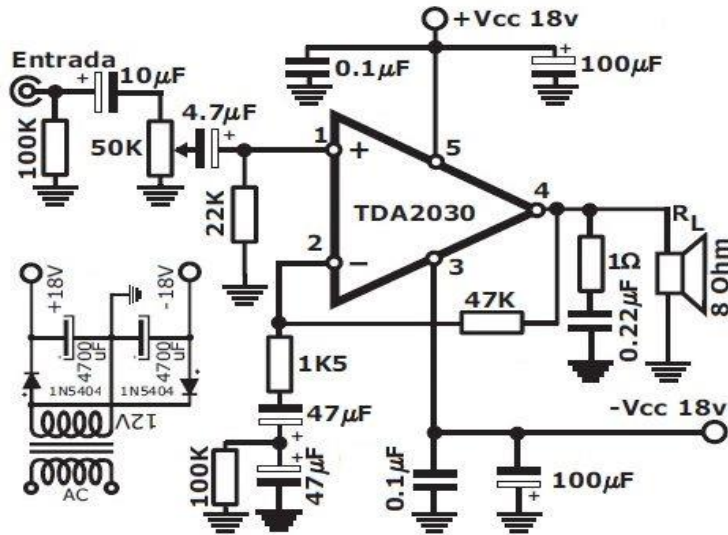




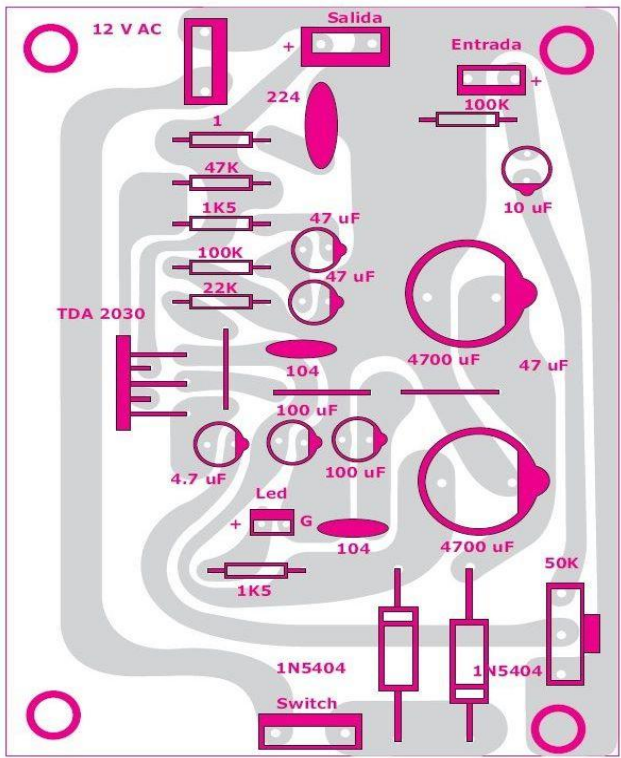
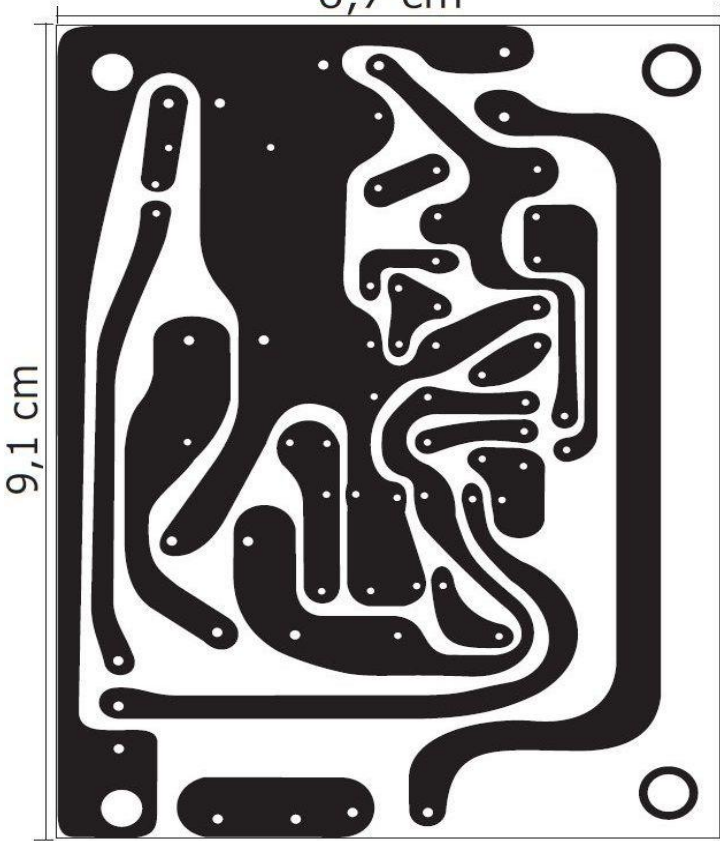
odyo ampli 15w 01-01 tda7297



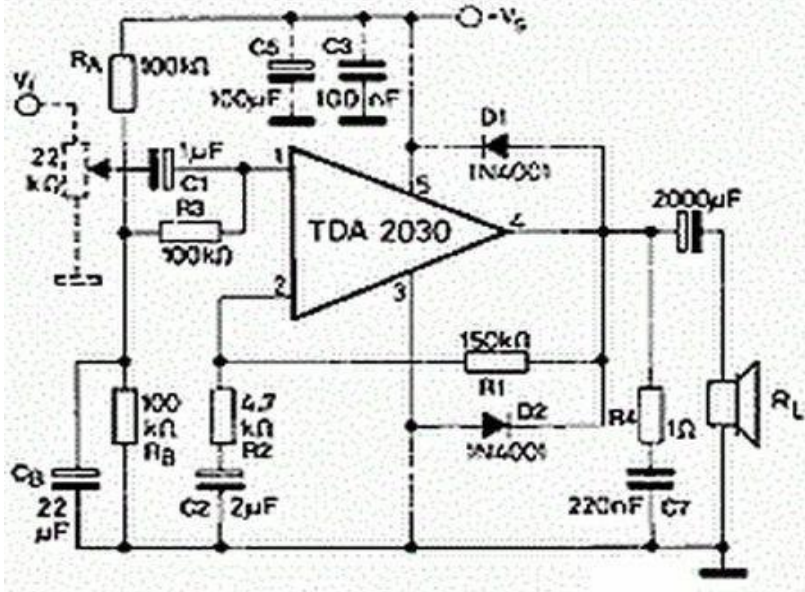
odyo ampli 15w 02-01 tda2030



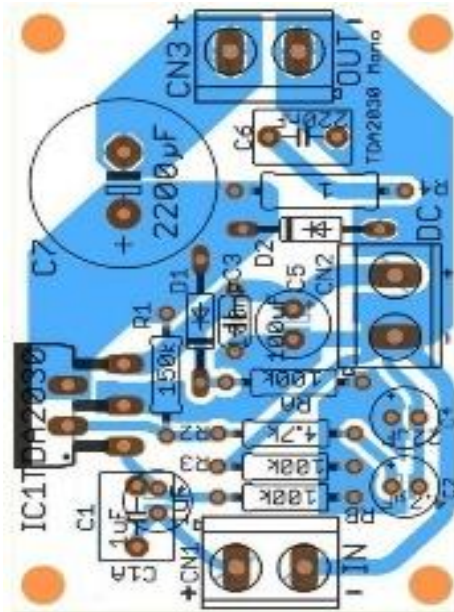
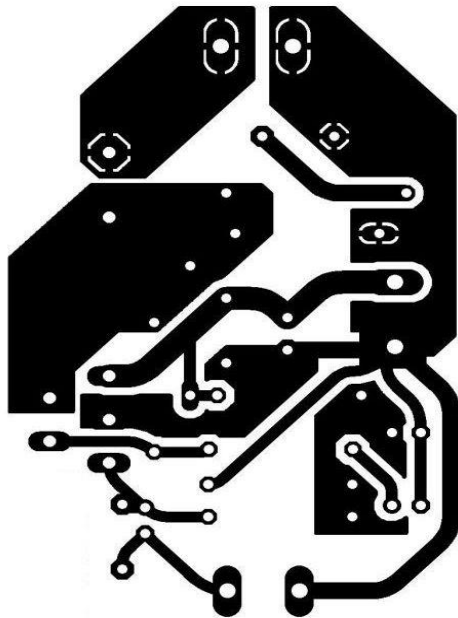
6,7 cm



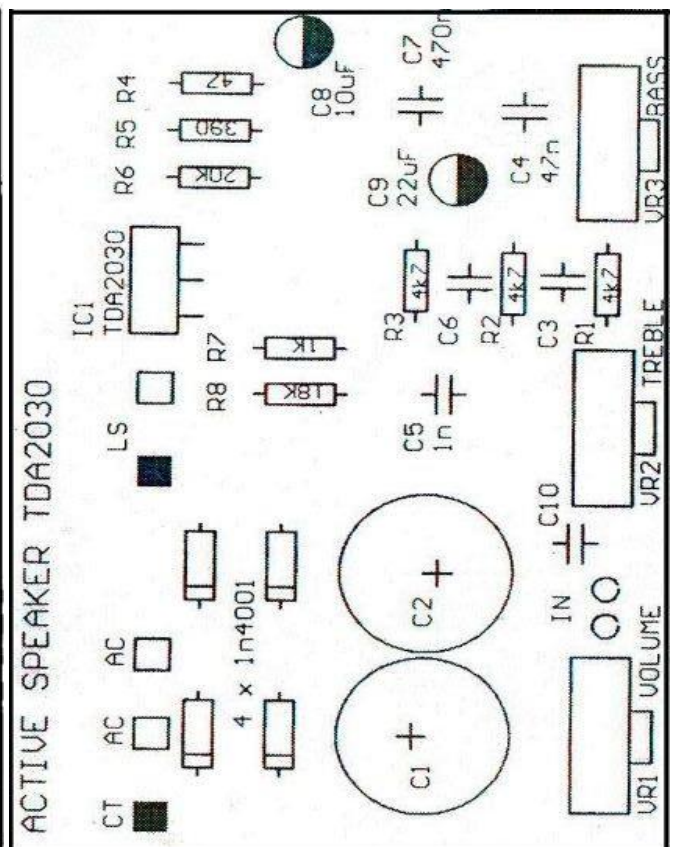
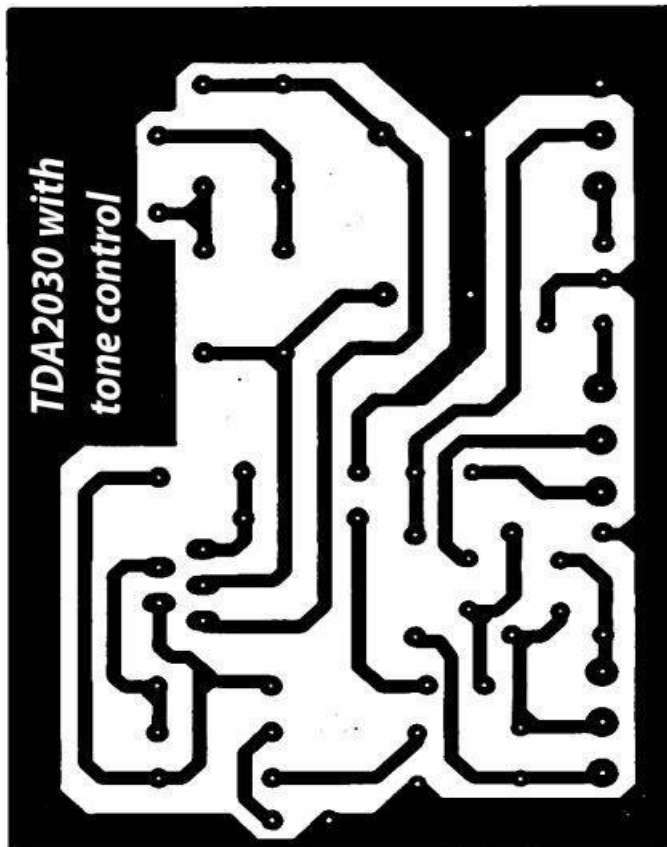
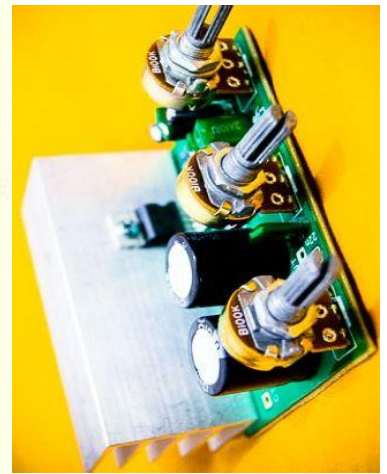
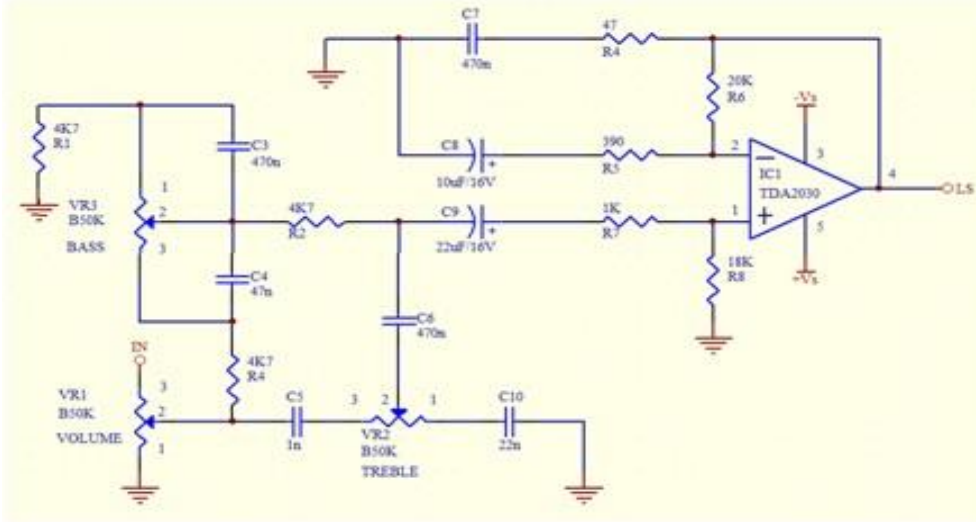
odyo ampli 18w 01-01 tda2030



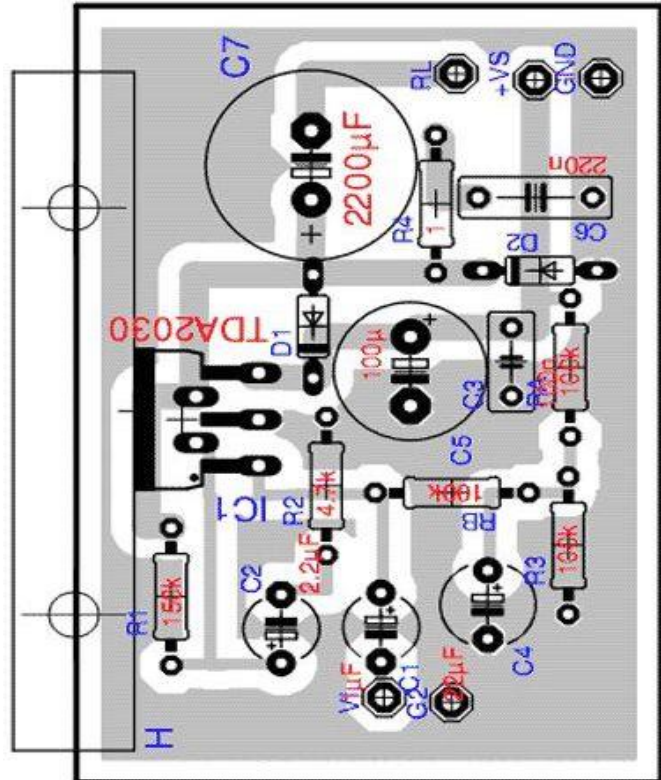
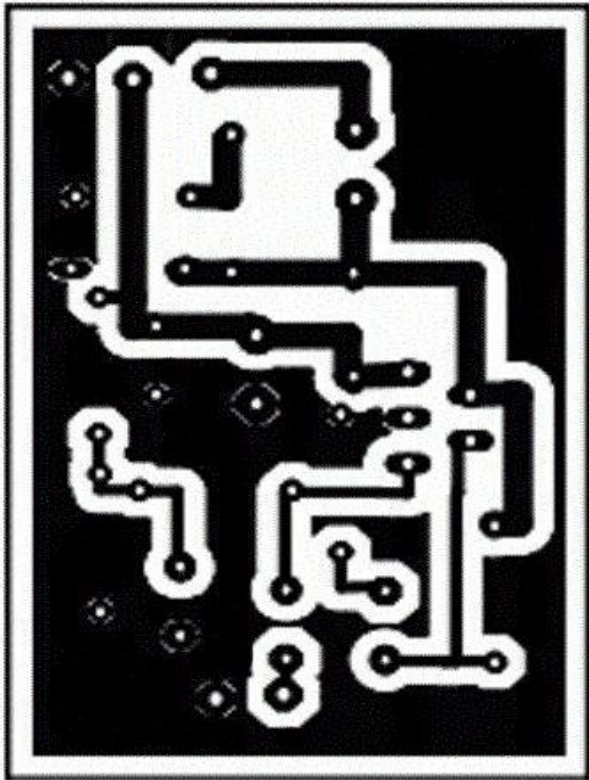
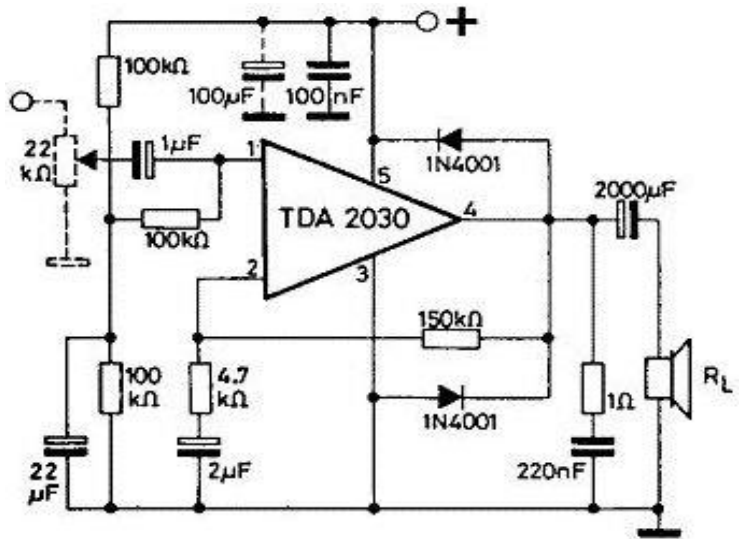
Parts	Value
Capacitors*	
C1,	1uF/16V
C1A	1uF/100V (Optional)
C2	4.7µF
C3	100nF
C4	22uF
C5	100uF
C6	220nF
C7	2200µF
Semiconductors	
D1, D2	1n4004
IC1	TDA2030 or TDA2030A
Resistors	
R1	150k
R2	4.7k
R3, RA, RB	100k
R4	1 ohm 1W



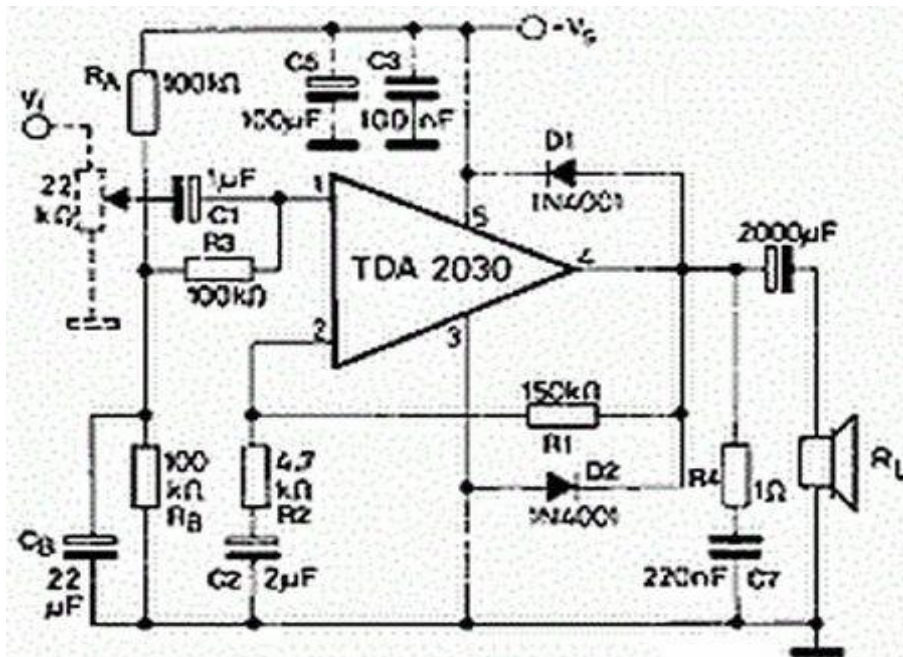
odvo ampli 18w 02-01 tda2030



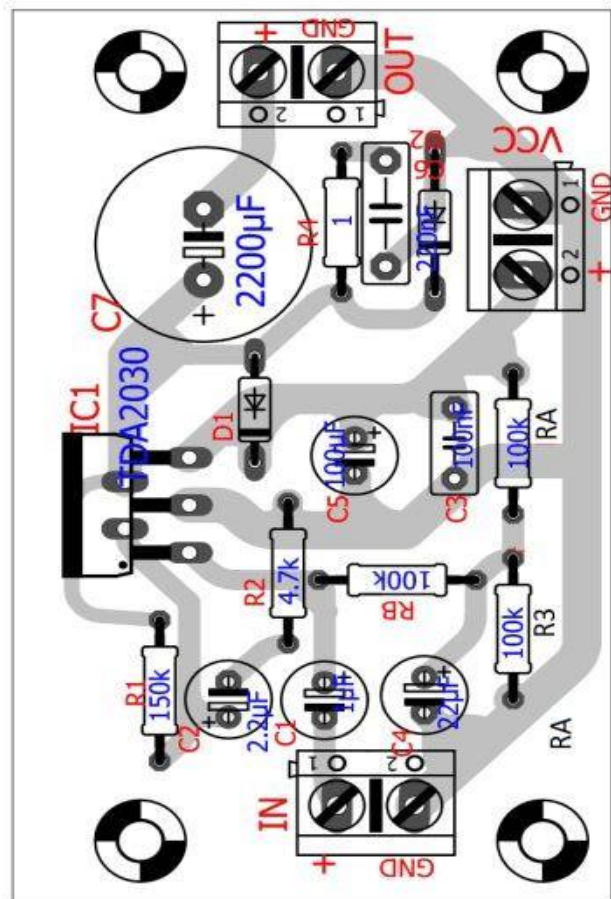
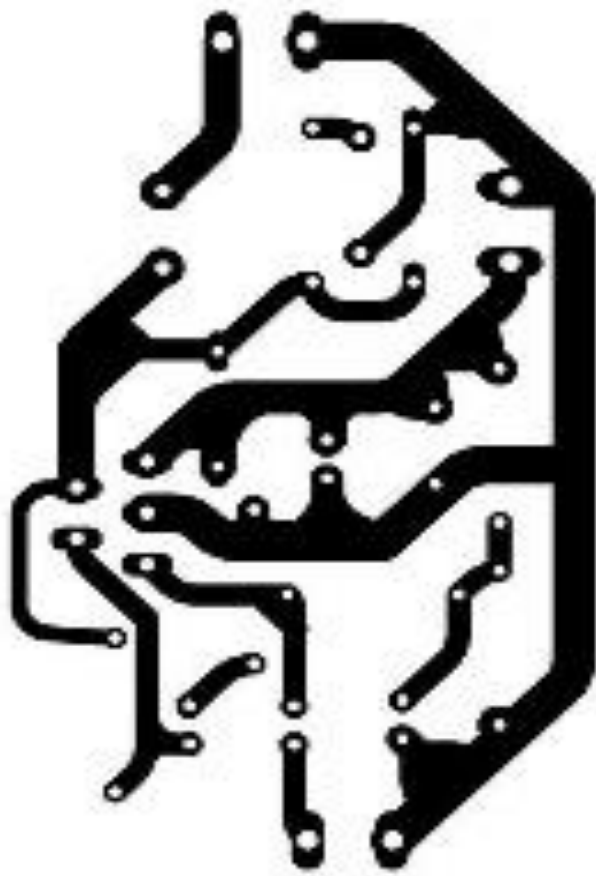
odyo ampli 18w 03-01 tda2030



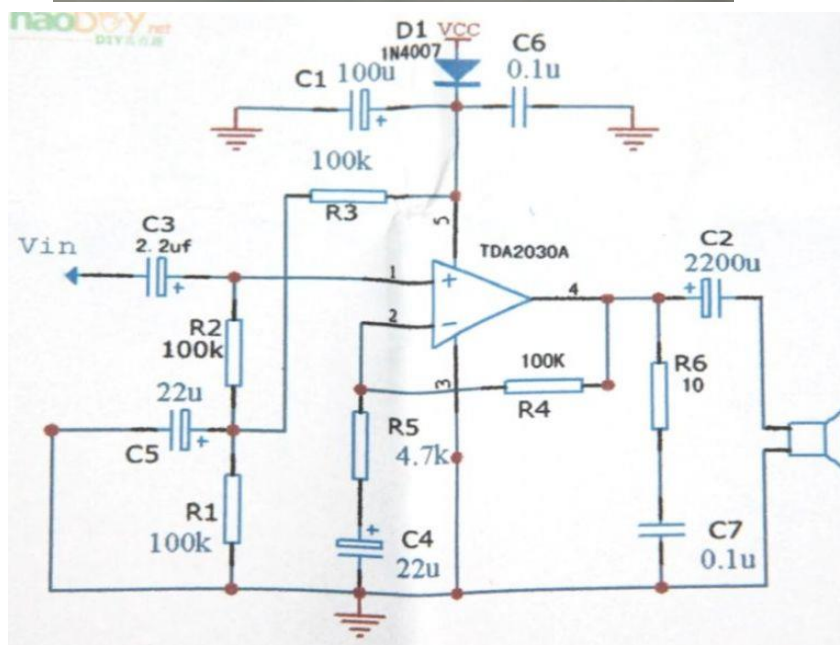
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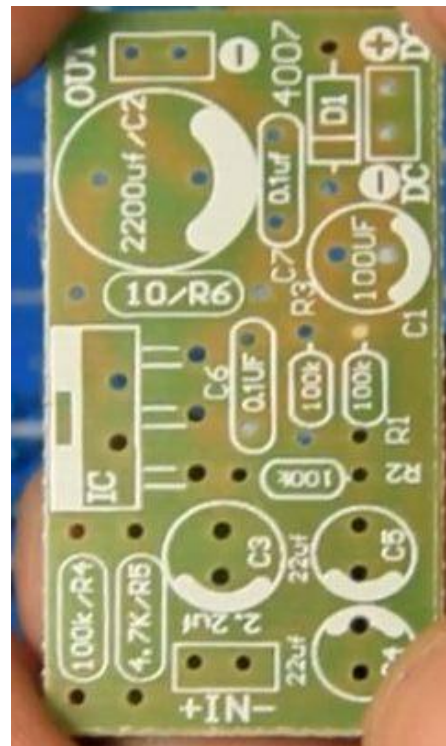
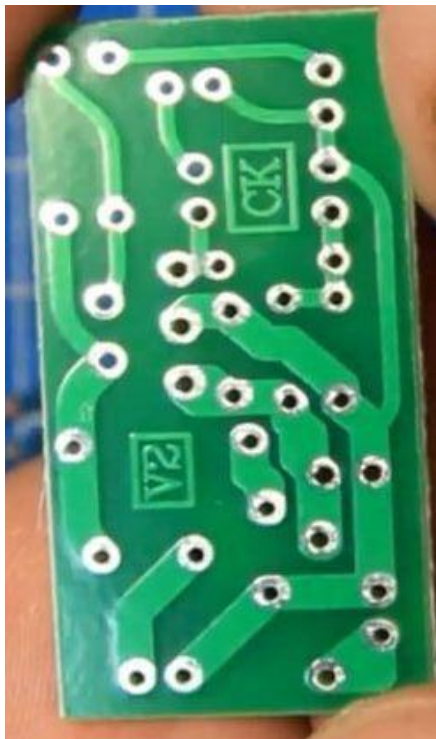


- C1: 1μF 25V Electrolytic
- C2: 2.2μF 25V Electrolytic
- C3: 100nF polyester or ceramic
- C4: 22μF/25 V ELECTROLYTIC
- C5: none
- C6: 220nF polyester or ceramic
- C7: 2200μF / 35V
- IC1: TDA2030 or tda2030a
- D1/D2: 1N4002
- R1: 150KΩ
- R2: 4.7KΩ
- R3: 100KΩ
- R4: 1Ω 1W
- RA/RB: 100KΩ

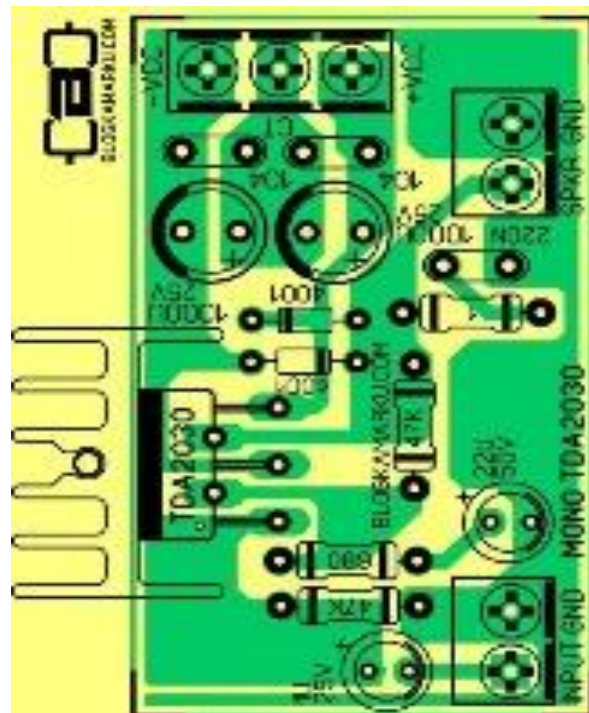
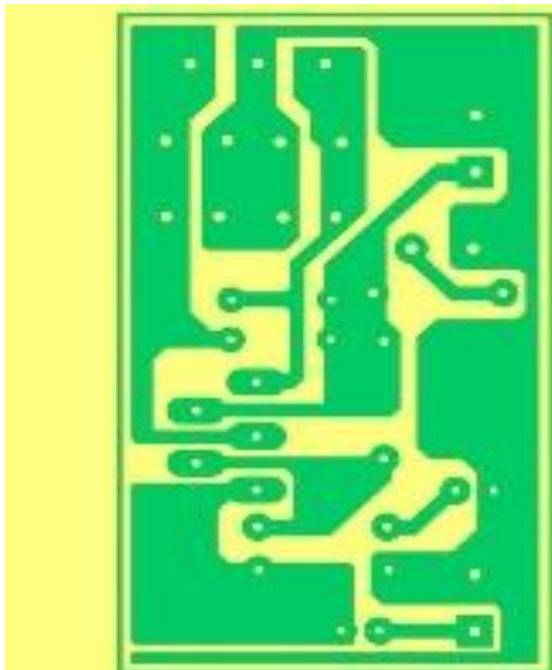


odyo ampli 18w 05-01 tda2030

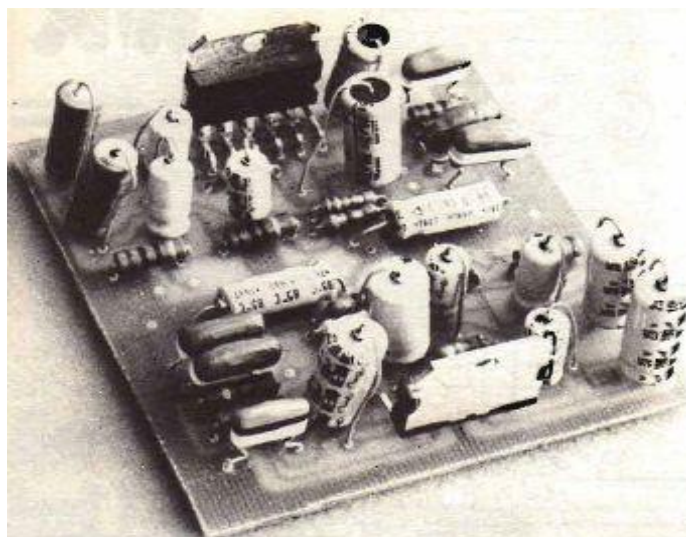


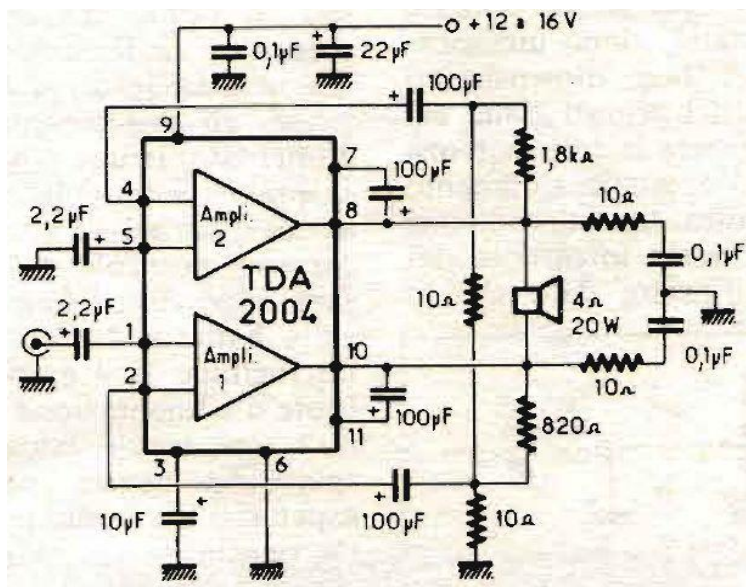


odyo ampli 18w 06-01 tda2030



odyo ampli 20+20w 01-01 tda2004



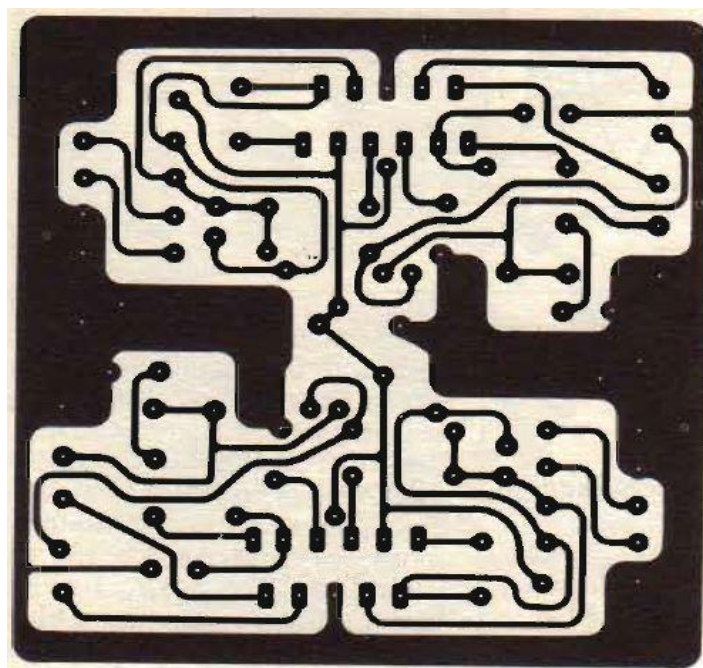


CONDENSATORI
mylar o ceramici
6 x 0,1 µF

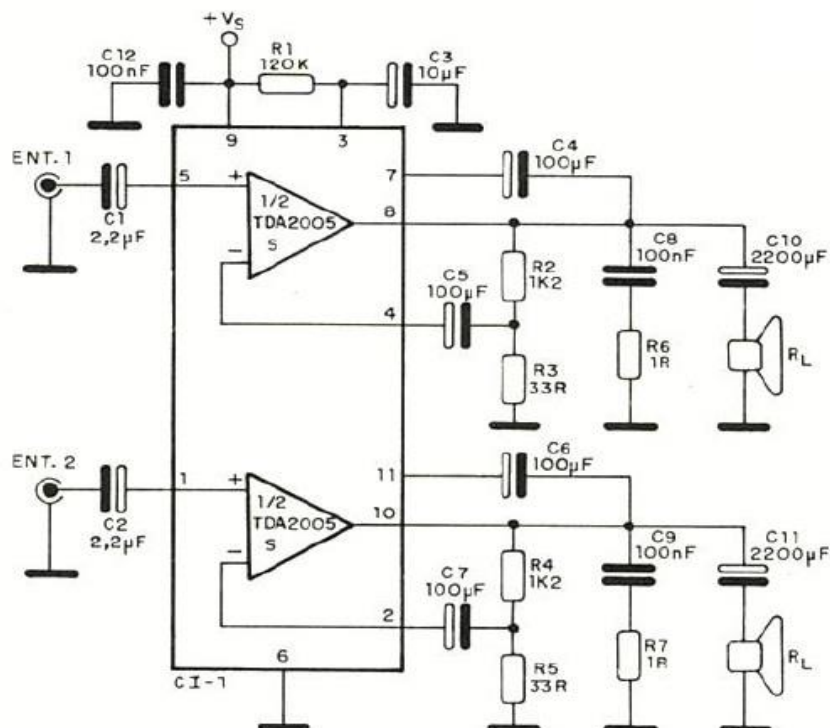
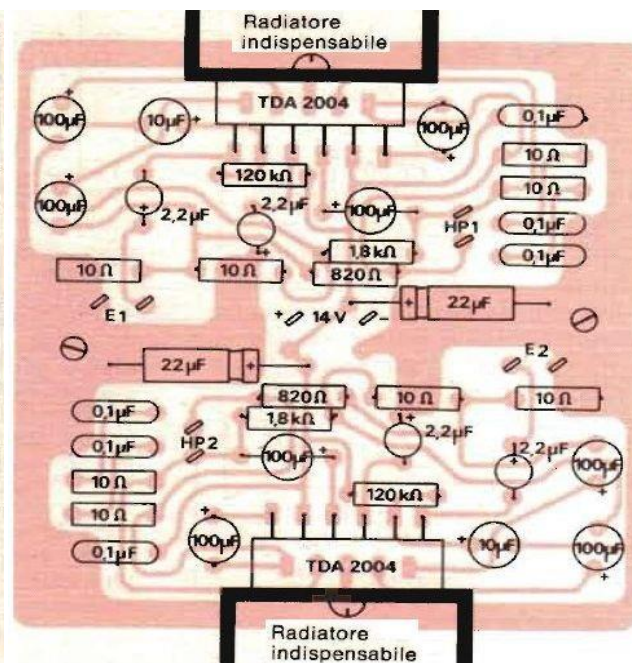
CONDENSATORI ELETTROLITICI 16 V
4 x 2,2 µF
2 x 10 µF
8 x 100 µF

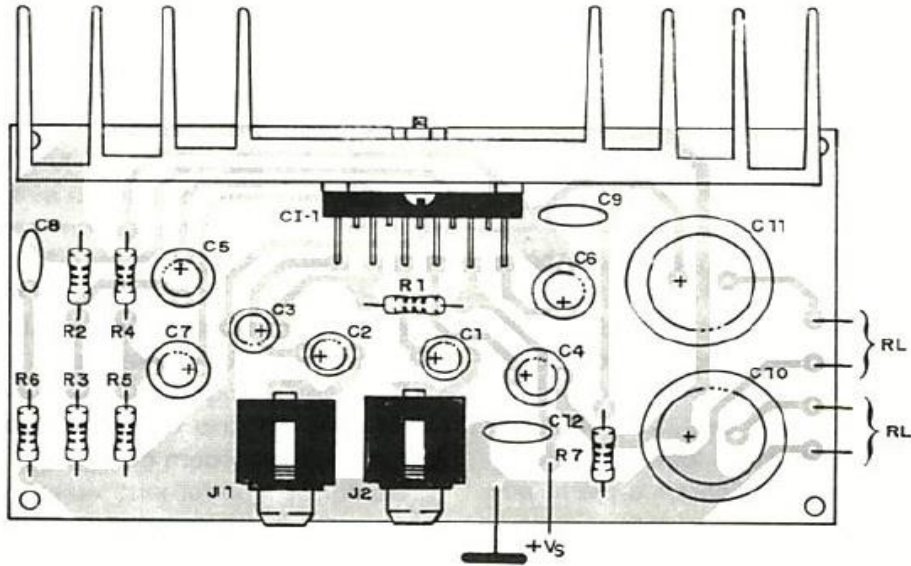
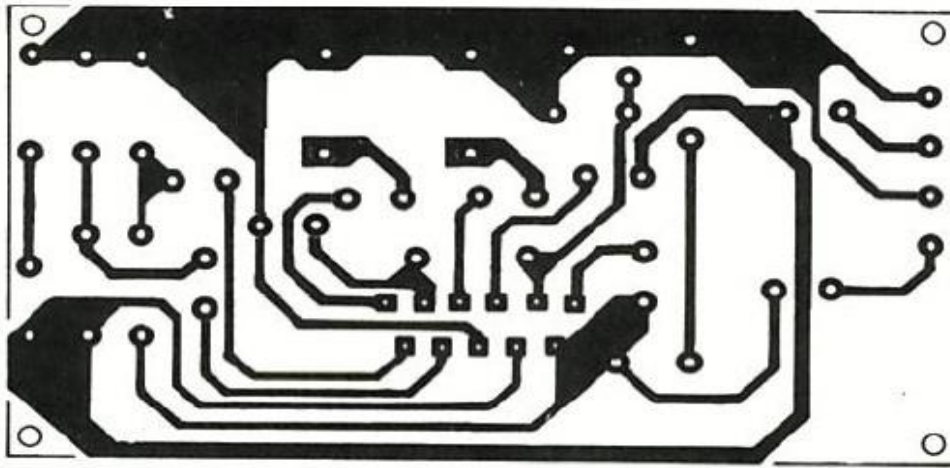
SEMICONDUTTORI
2 x TDA 2004 (SGS-Ates)

RESISTENZE 5% 1/4 W
8 x 10 Ω (marrone, nero, nero)
2 x 820 Ω (grigio, rosso, marrone)
2 x 1,8 kΩ (marrone, grigio, rosso)
2 x 120 kΩ (marrone, rosso, giallo)

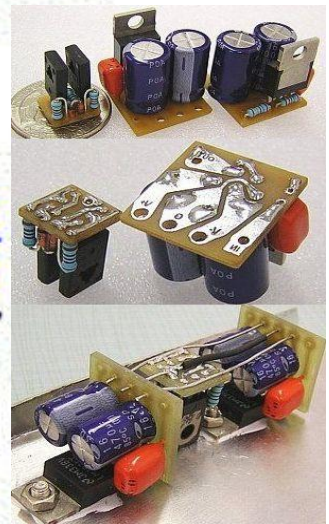
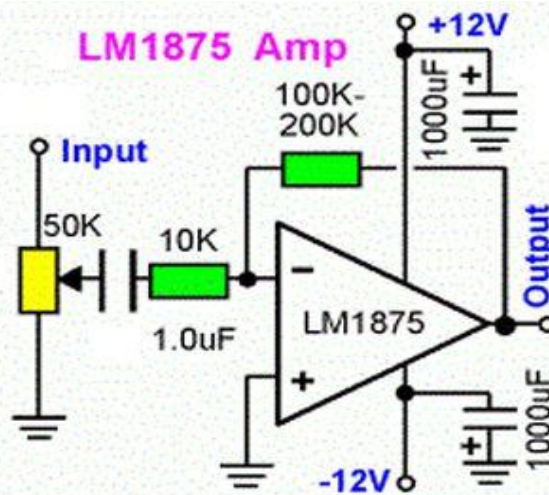
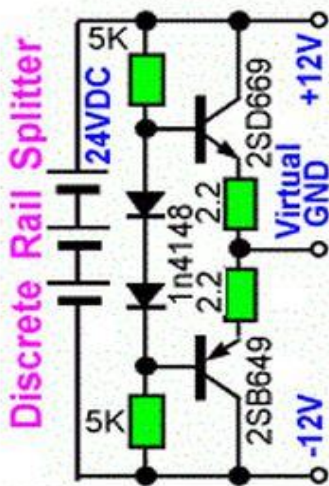


odyo ampli 20+20w 02-01 tda2005

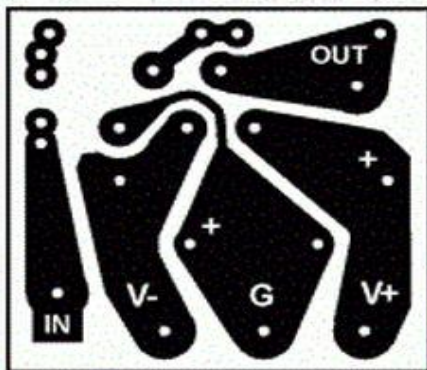




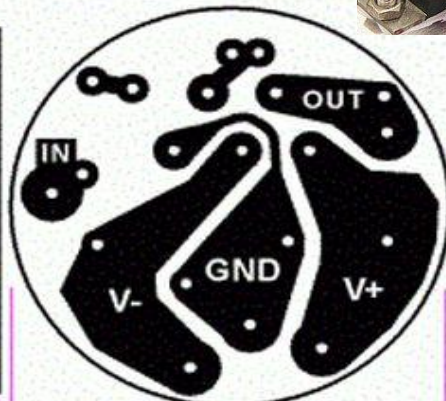
odyo ampli 20w 01-01 lm1875



11.3 mm

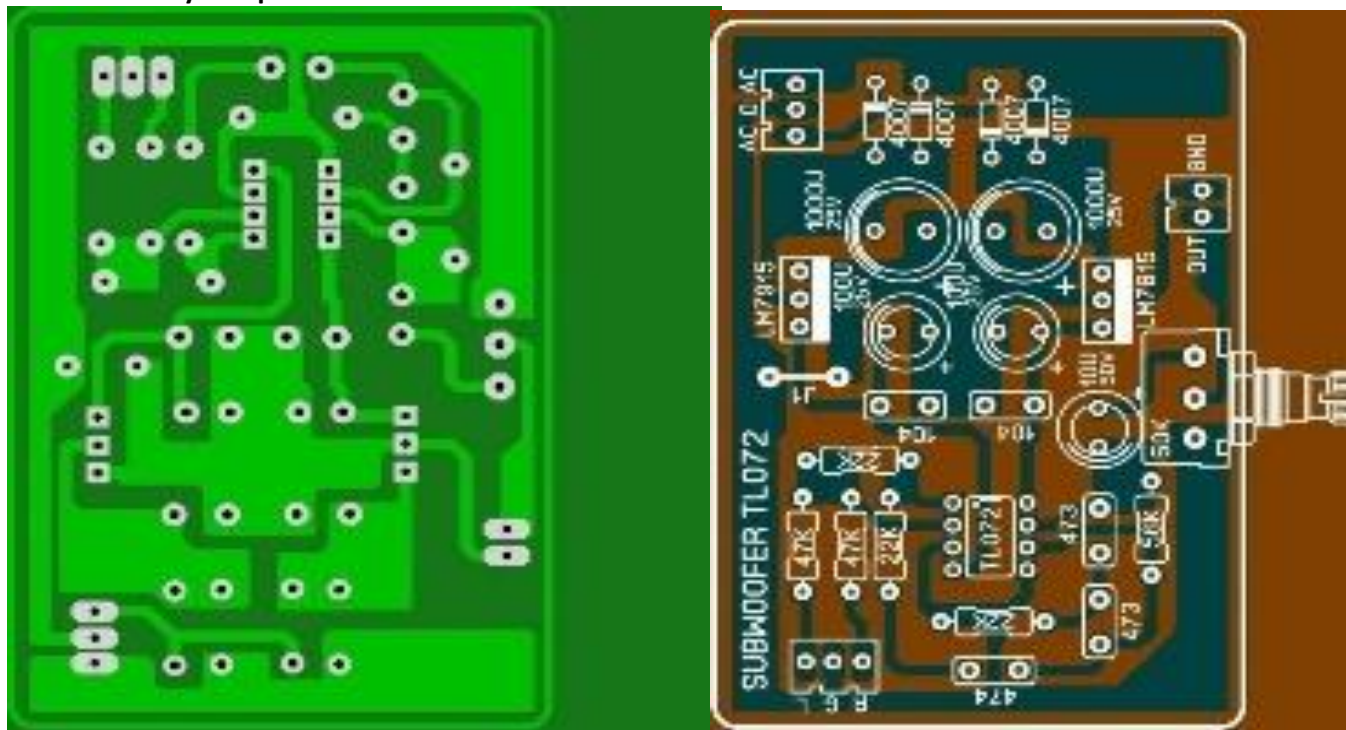


21 mm

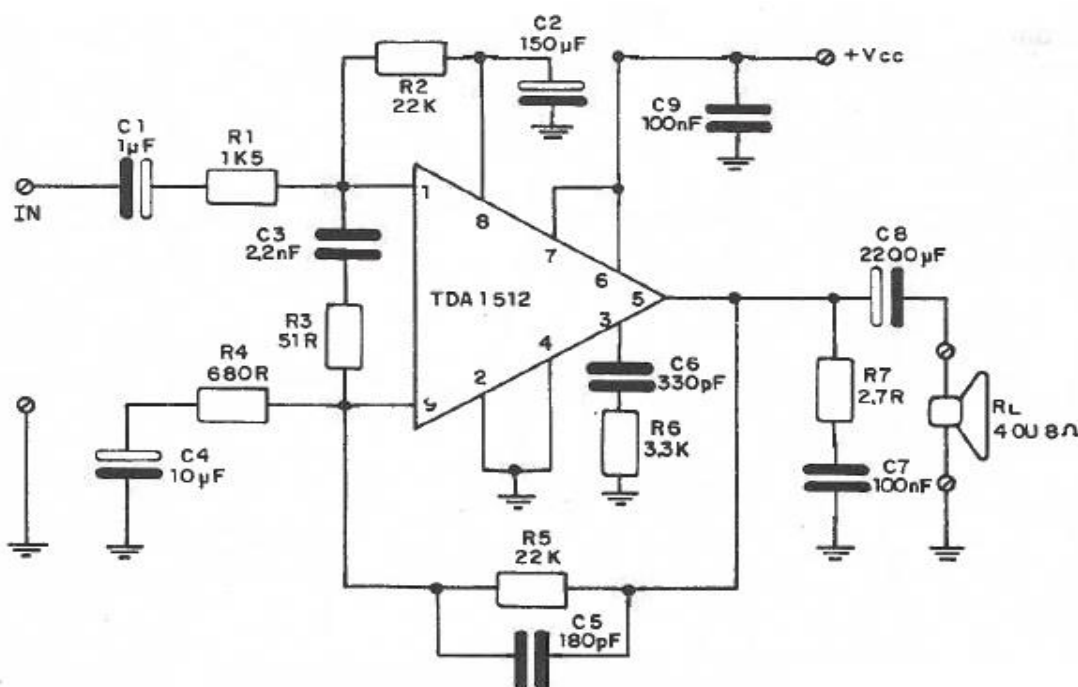


22 mm

odyo ampli 20w 02-01 lm1875



odyo ampli 20w 03-01 tda1512



Lista de Material (para 1 módulo, sem fonte)

CI-1 – TDA1512 (Philips)
 C1 – $10 \mu F$ – capacitor eletrolítico
 C2 – $150 \mu F$ – capacitor eletrolítico
 C3 – $2n2$ – capacitor cerâmico ou de poliéster
 C4 – $10 \mu F$ – capacitor eletrolítico
 C5 – $180 pF$ – capacitor cerâmico
 C6 – $330 pF$ – capacitor cerâmico
 C7 – $100 nF$ – capacitor cerâmico
 C8 – $2200 \mu F$ – capacitor eletrolítico
 R1 – $1k5$ – resistor (marrom, verde, vermelho)
 R2 – $22k$ – resistor (vermelho, vermelho, laranja)
 R3 – $51 ohms$ – resistor (verde, branco, preto)
 R4 – $680 ohms$ – resistor (azul, cinza, marrom)
 R5 – $22k$ – resistor (vermelho, vermelho, laranja)
 R6 – $3,3k$ – resistor (laranja, laranja, verde)

lho)

R7 – $2,7 ohms$ – resistor (vermelho, violeta, dourado)
 C9 – $100 nF$ – capacitor cerâmico
 Diversos: placa de circuito impresso, radiador de calor conforme desenho na palca, fios, solda, parafusos, porcas, arruelas, etc.

Material para fonte:

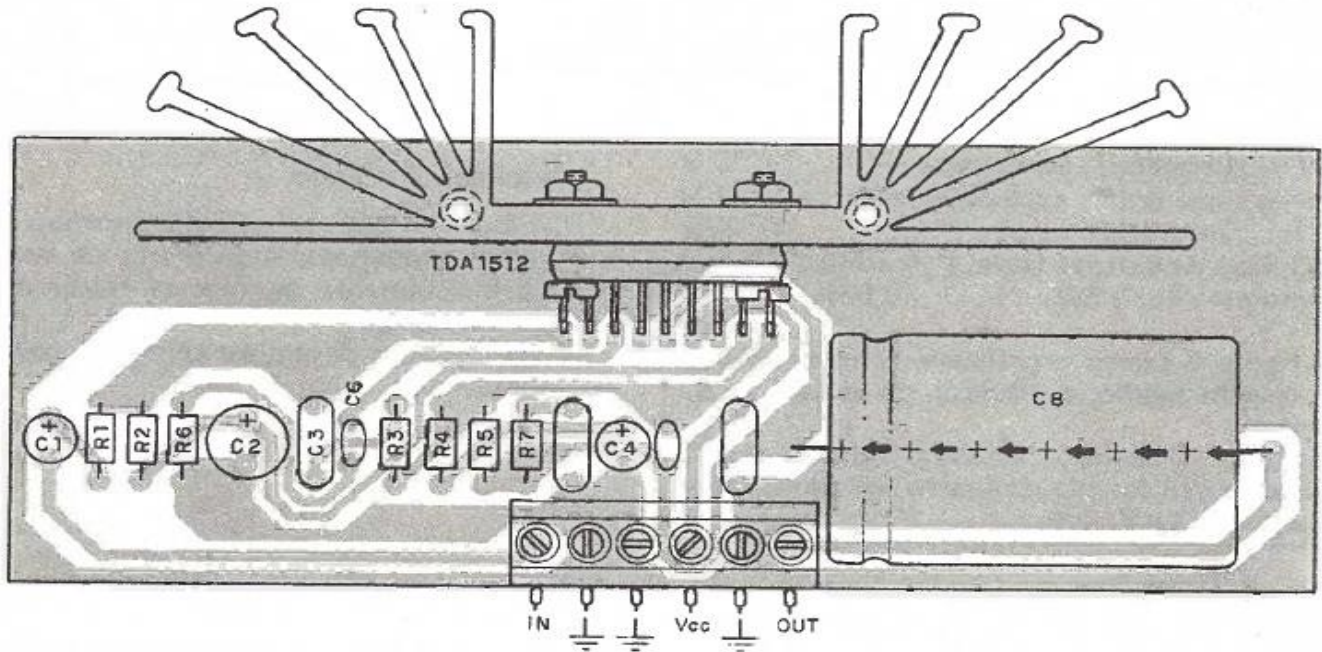
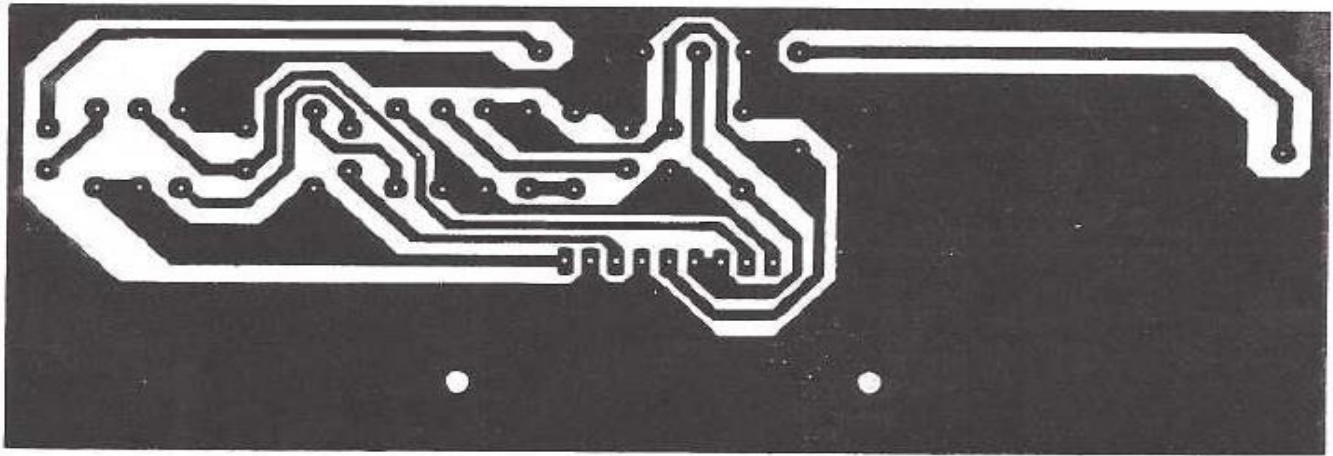
T1 – Transformador com primário de acordo com a rede local, e secundário de 18 à $20V \times 3A$, se a versão for monofônica e para $6A$ (mesma tensão), se a versão for estereofônica.

C1 – $4 \times 700 \mu F \times 35V$ – capacitor eletrolítico

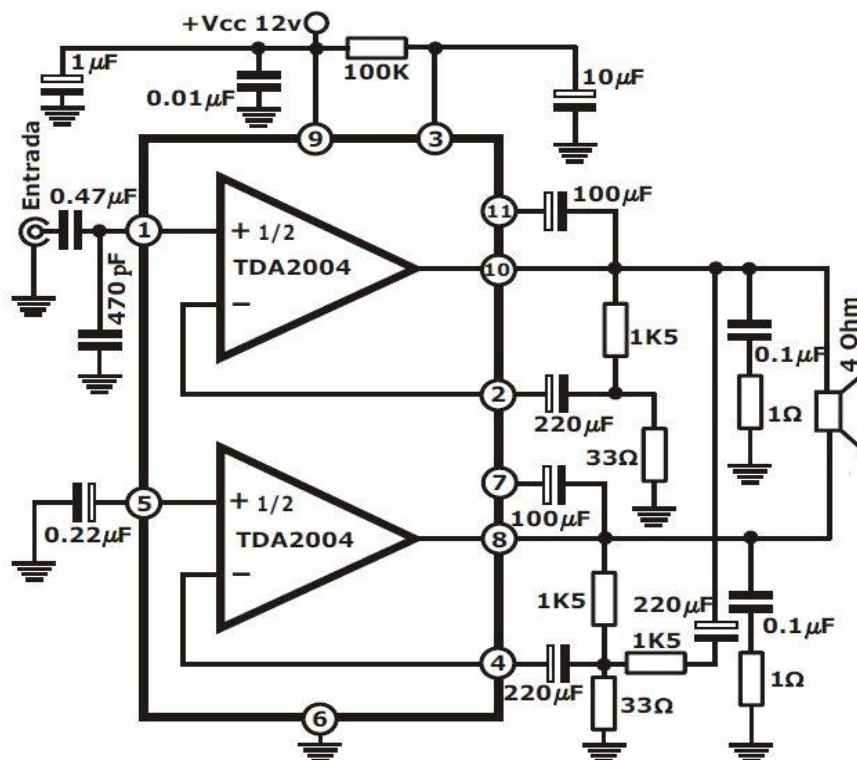
D1, D2 – Diodos para $100V \times 3A$ se a versão for monofônica e para $6A$ se a versão for estereofônica.

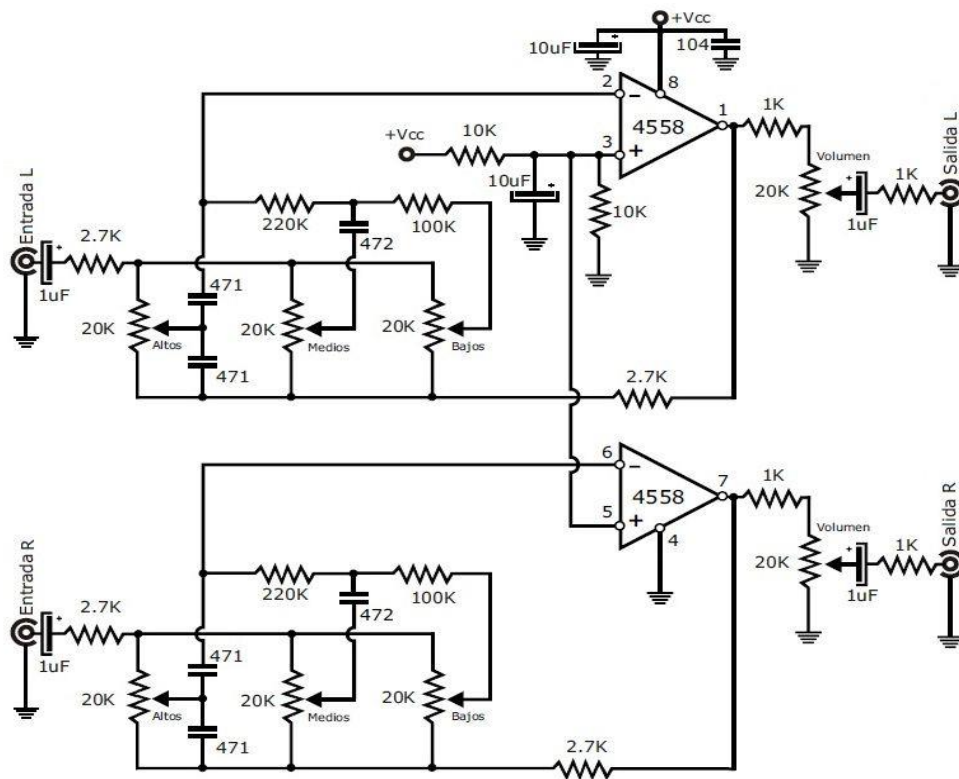
F1 – Fusível de $2A$

Diversos: cabo de alimentação, interruptor geral, etc.



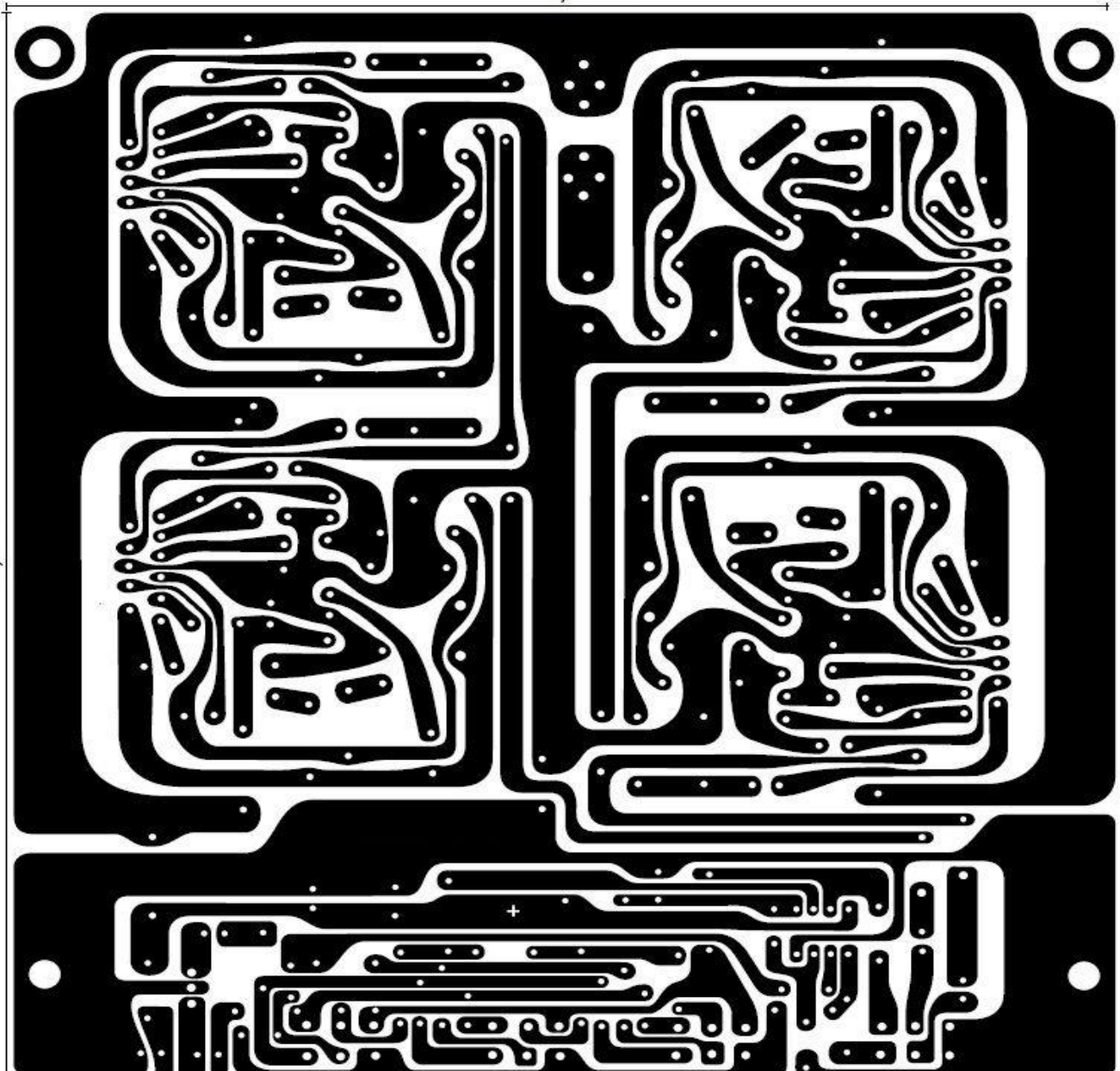
odyo ampli 20w x 4 01-01 tda2004

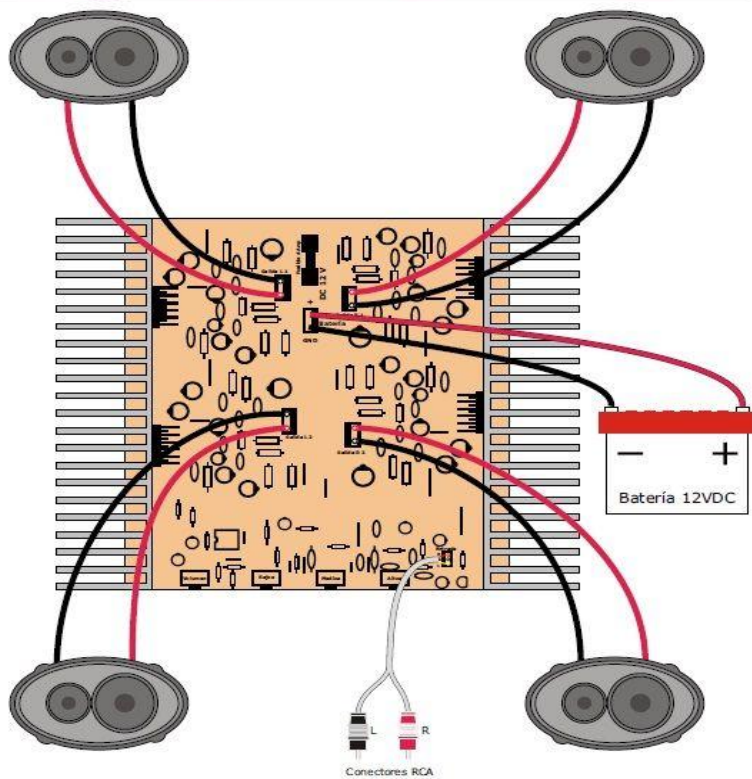




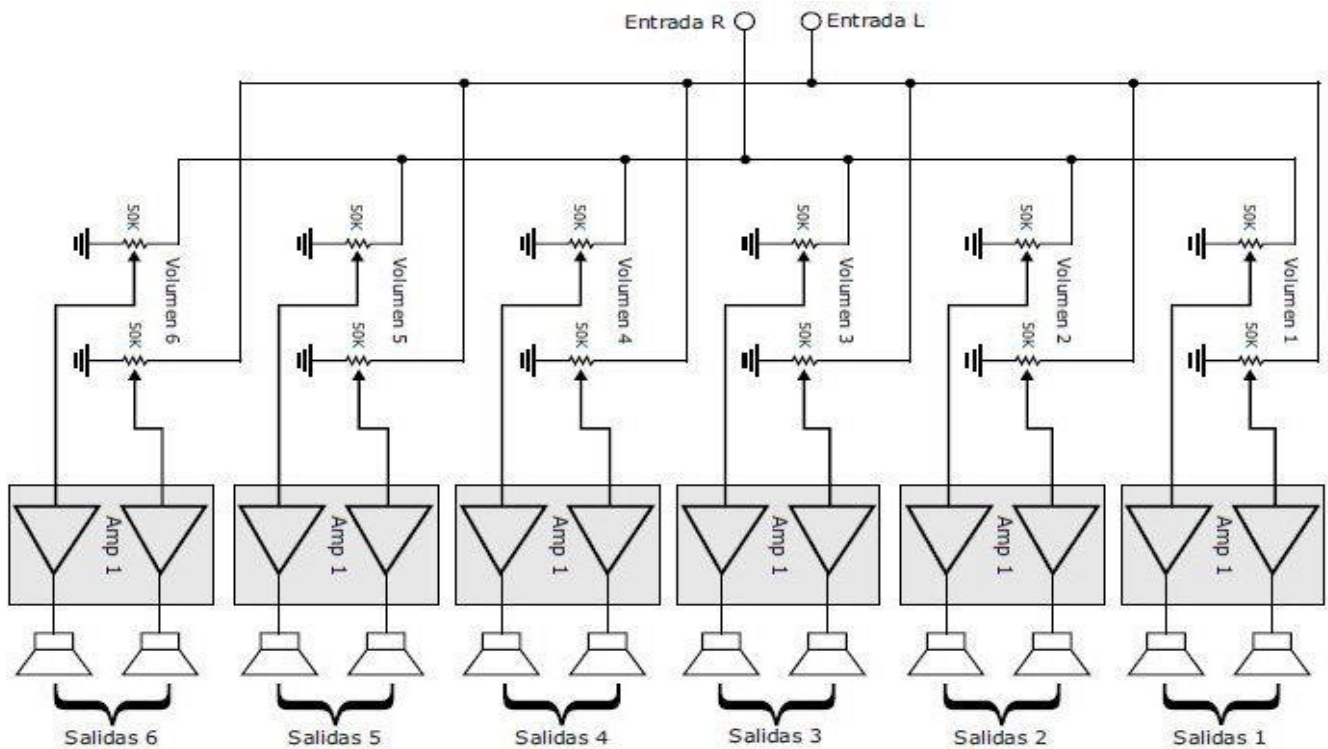
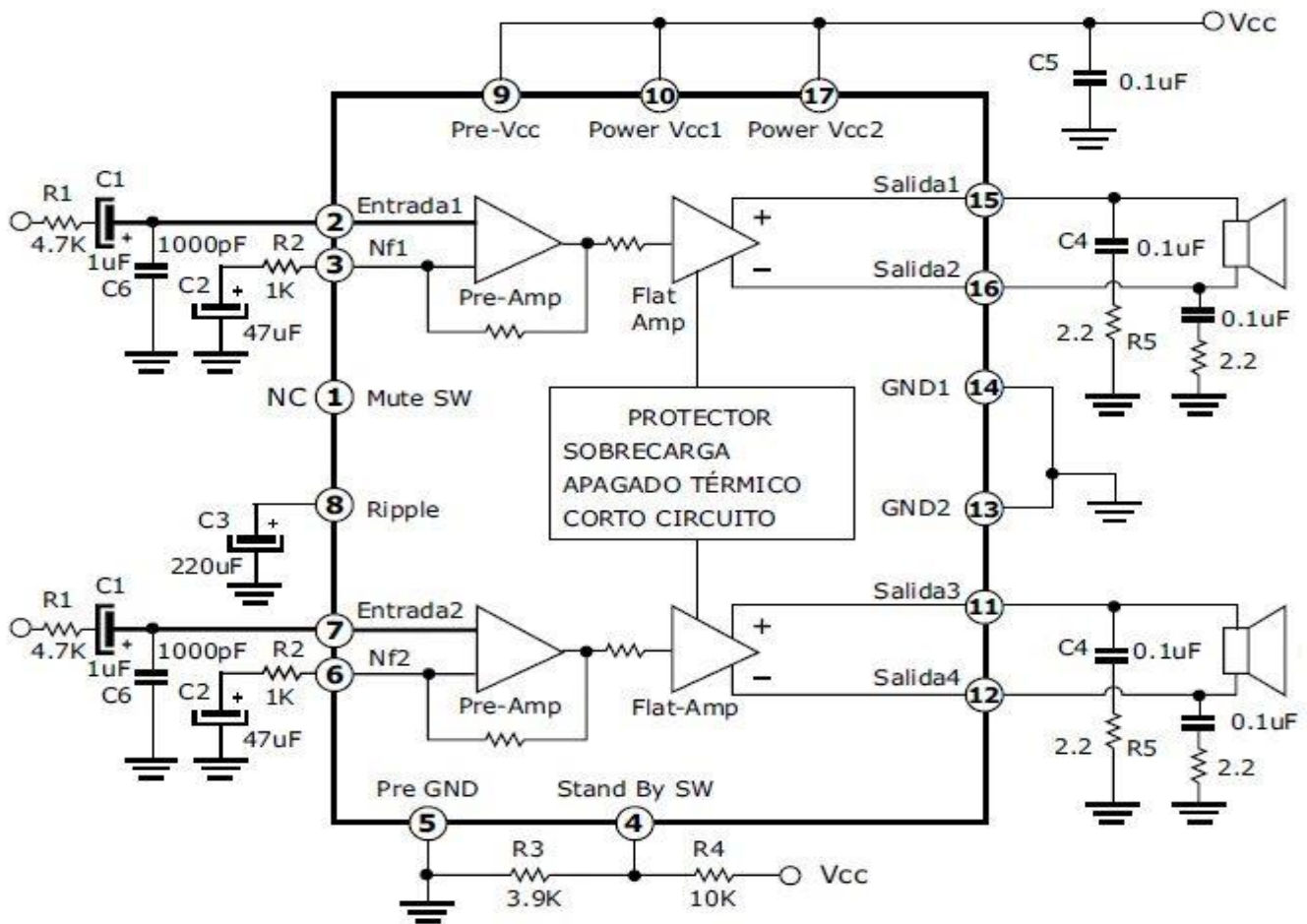
16,6 cm

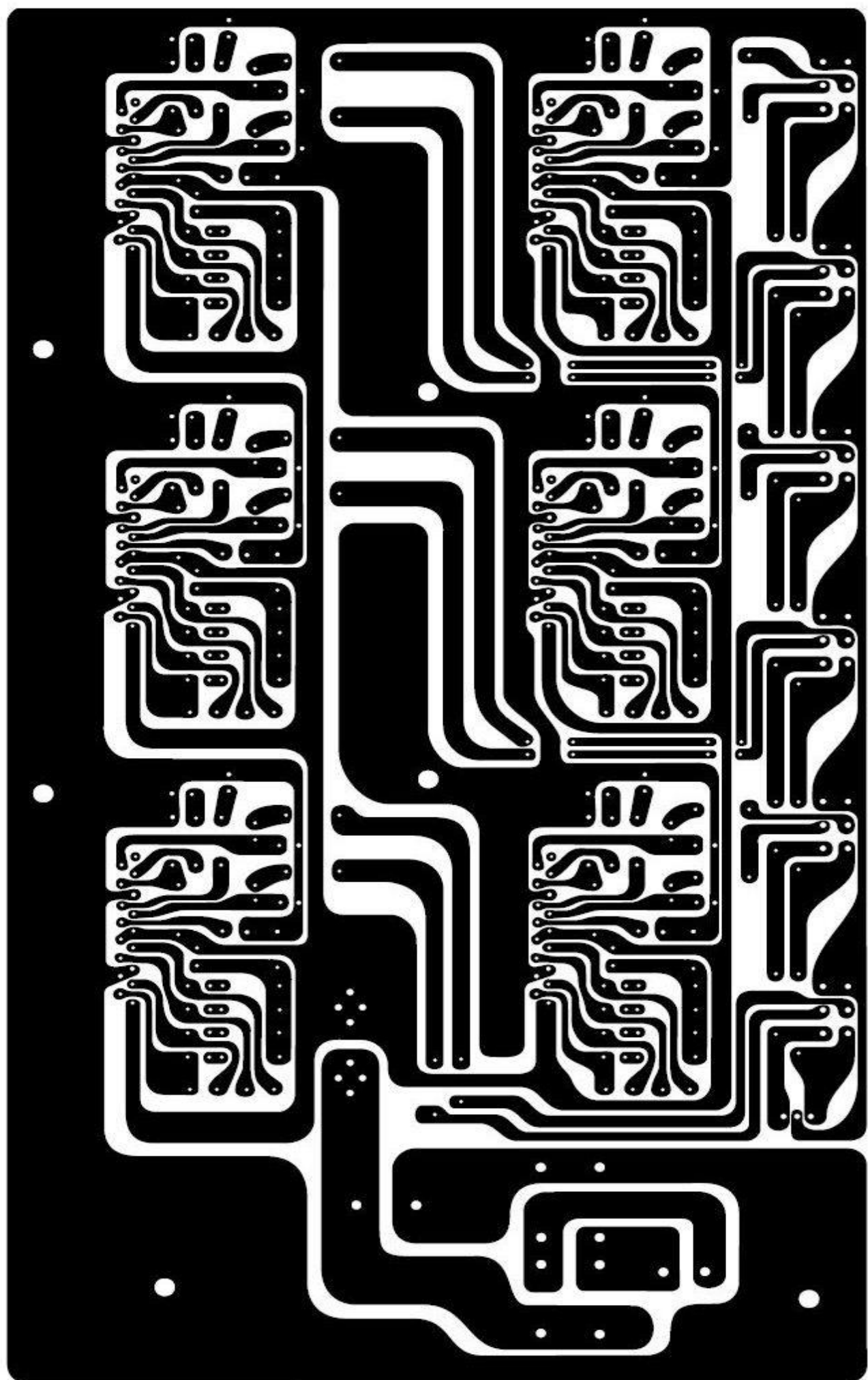
17,8 cm

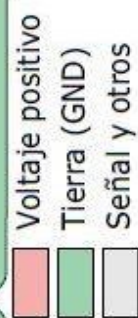


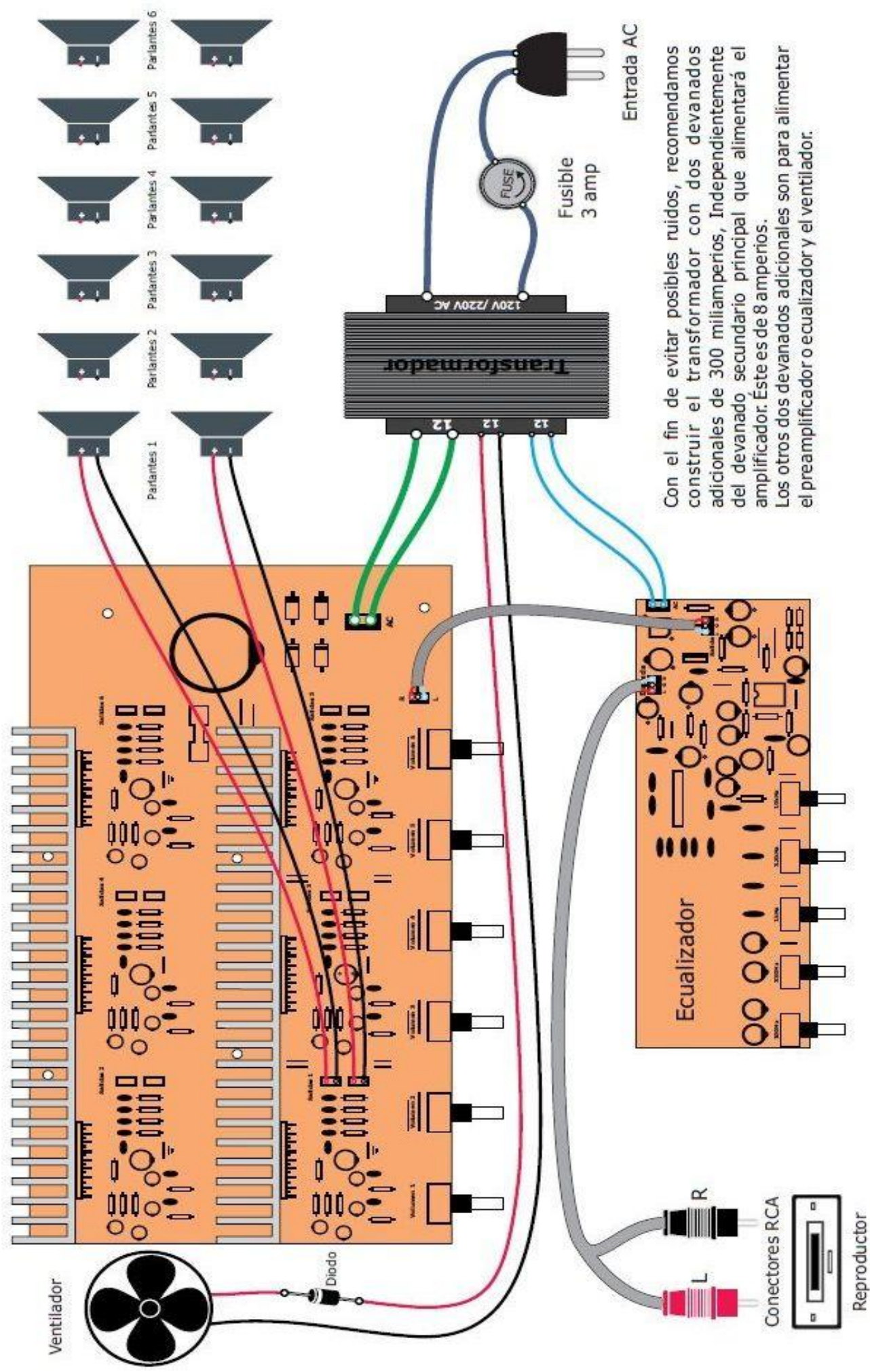


odyo ampli 20w x 12 01-01 ta8210



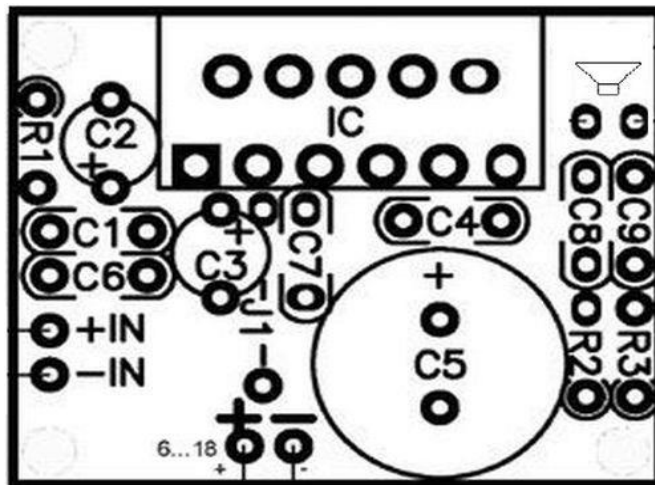
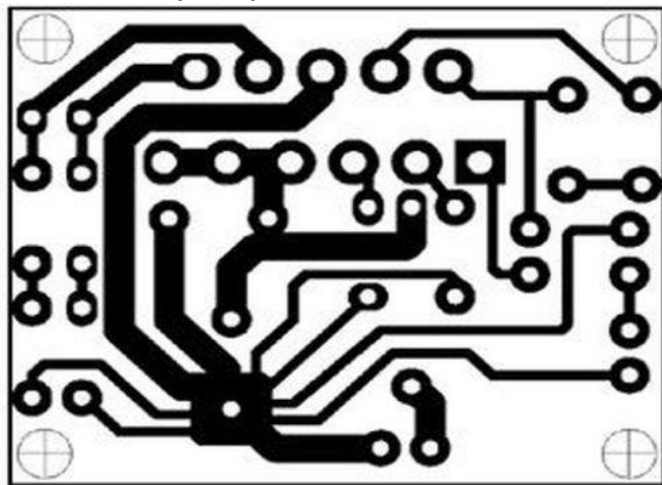




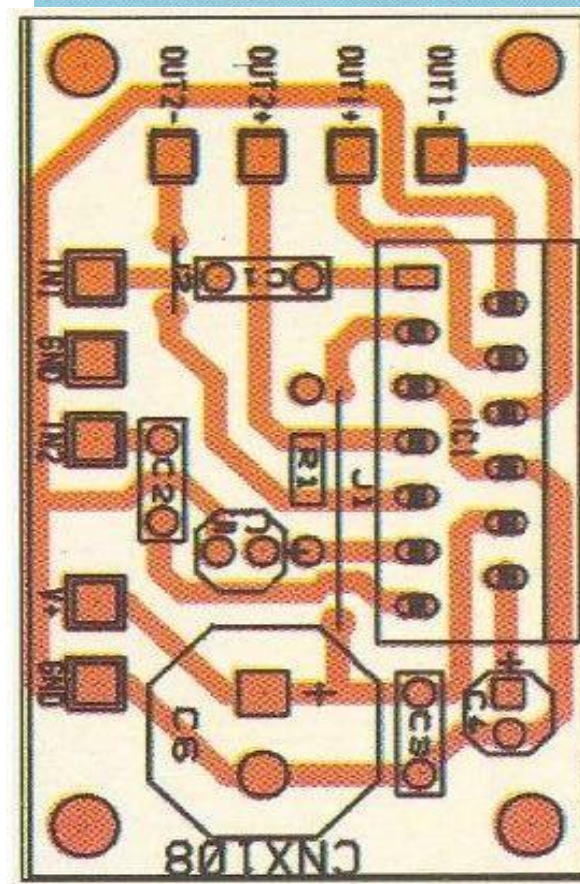
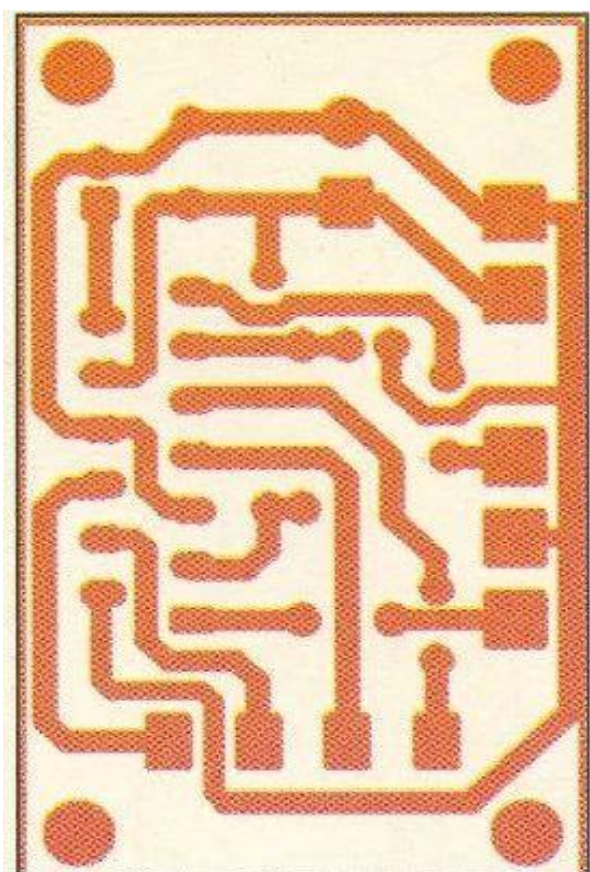
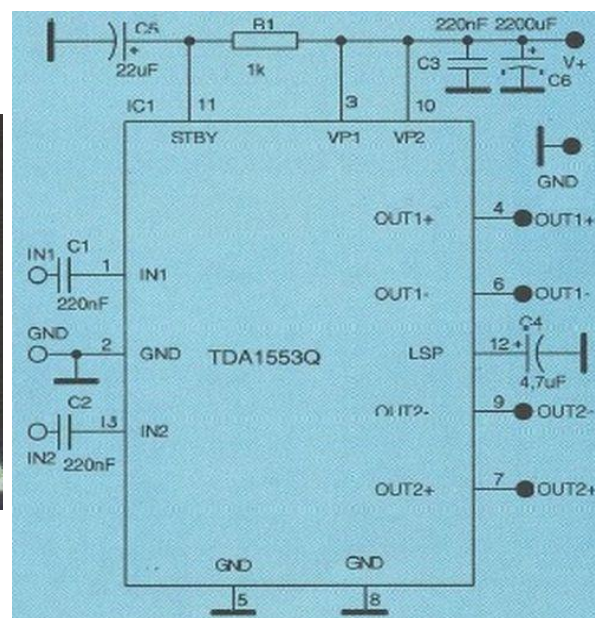


Con el fin de evitar posibles ruidos, recomendamos construir el transformador con dos devanados adicionales de 300 miliamperios, Independientemente del devanado secundario principal que alimentará el amplificador. Éste es de 8 amperios. Los otros dos devanados adicionales son para alimentar el preamplificador o ecualizador y el ventilador.

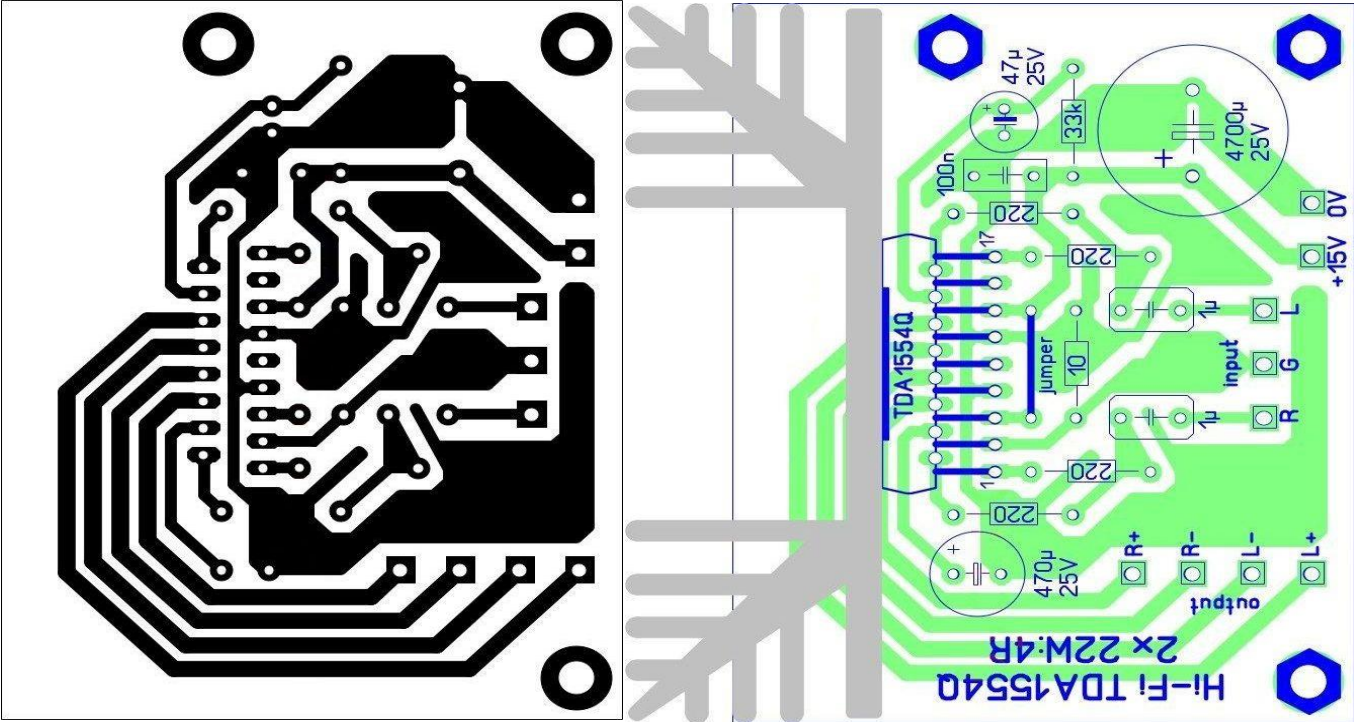
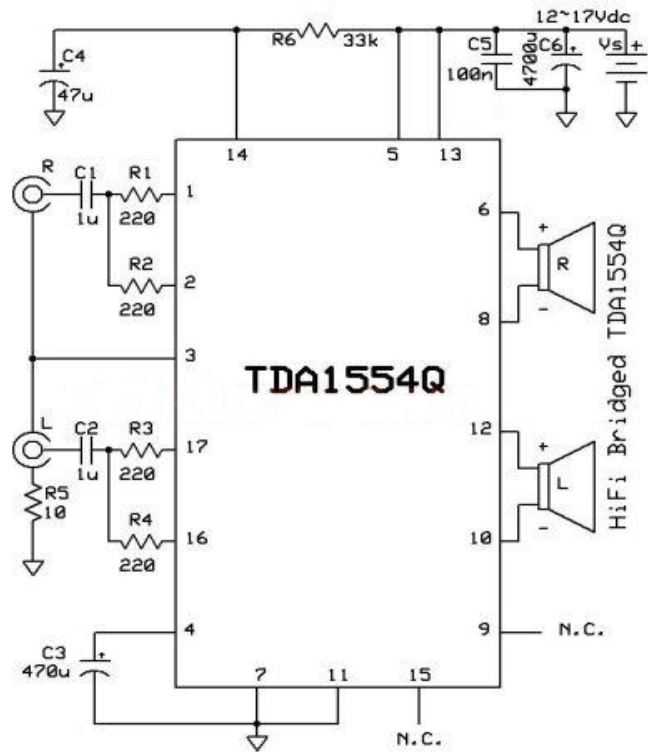
odyo ampli 22w 01-01 tda2005



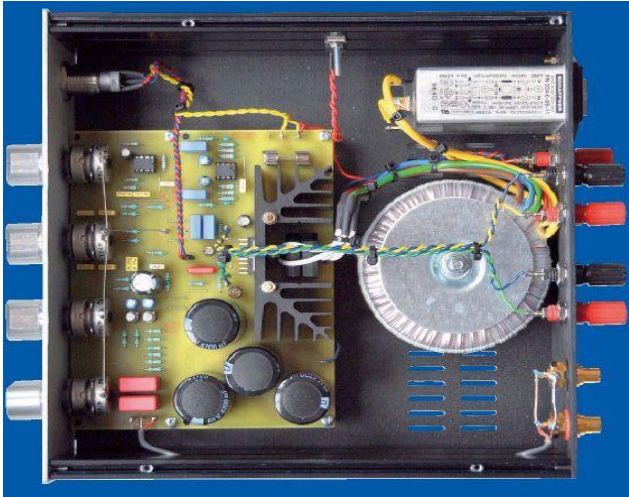
odyo ampli 22w 02-01 tda1552q-tda1553q-tda1557q

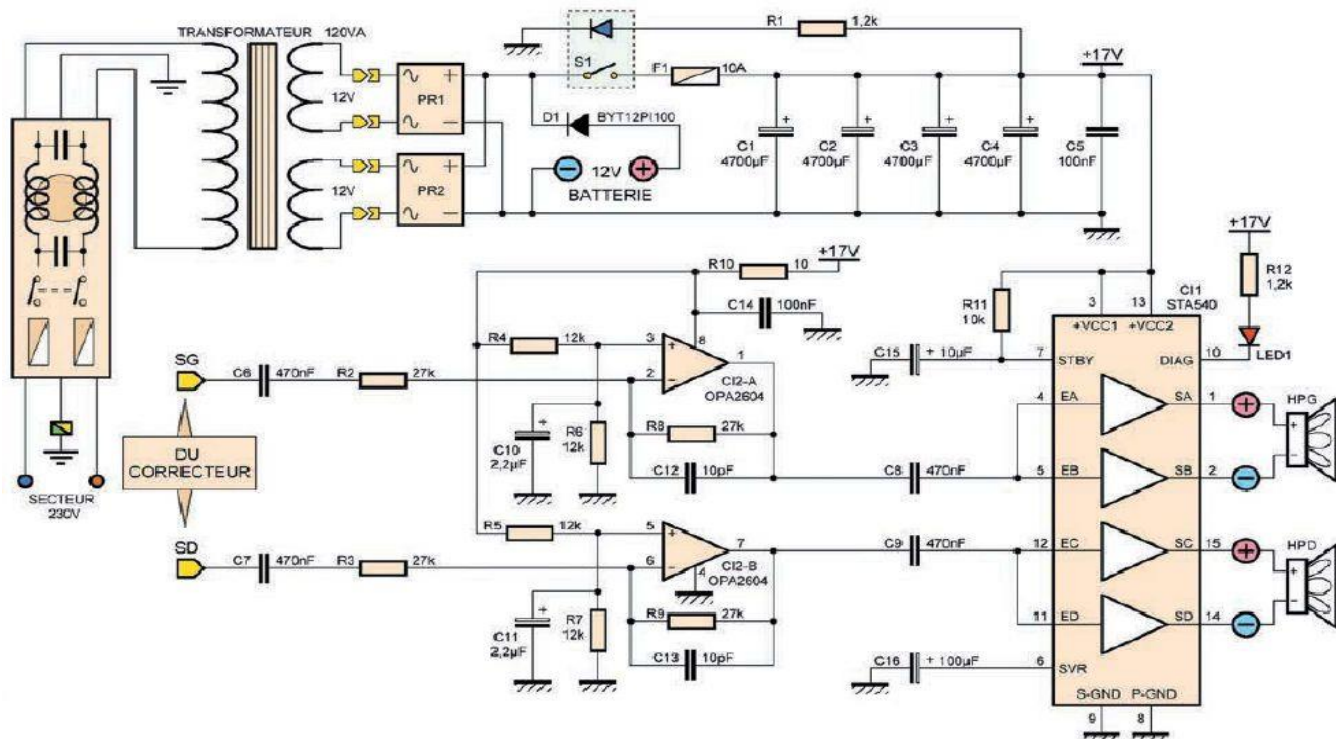
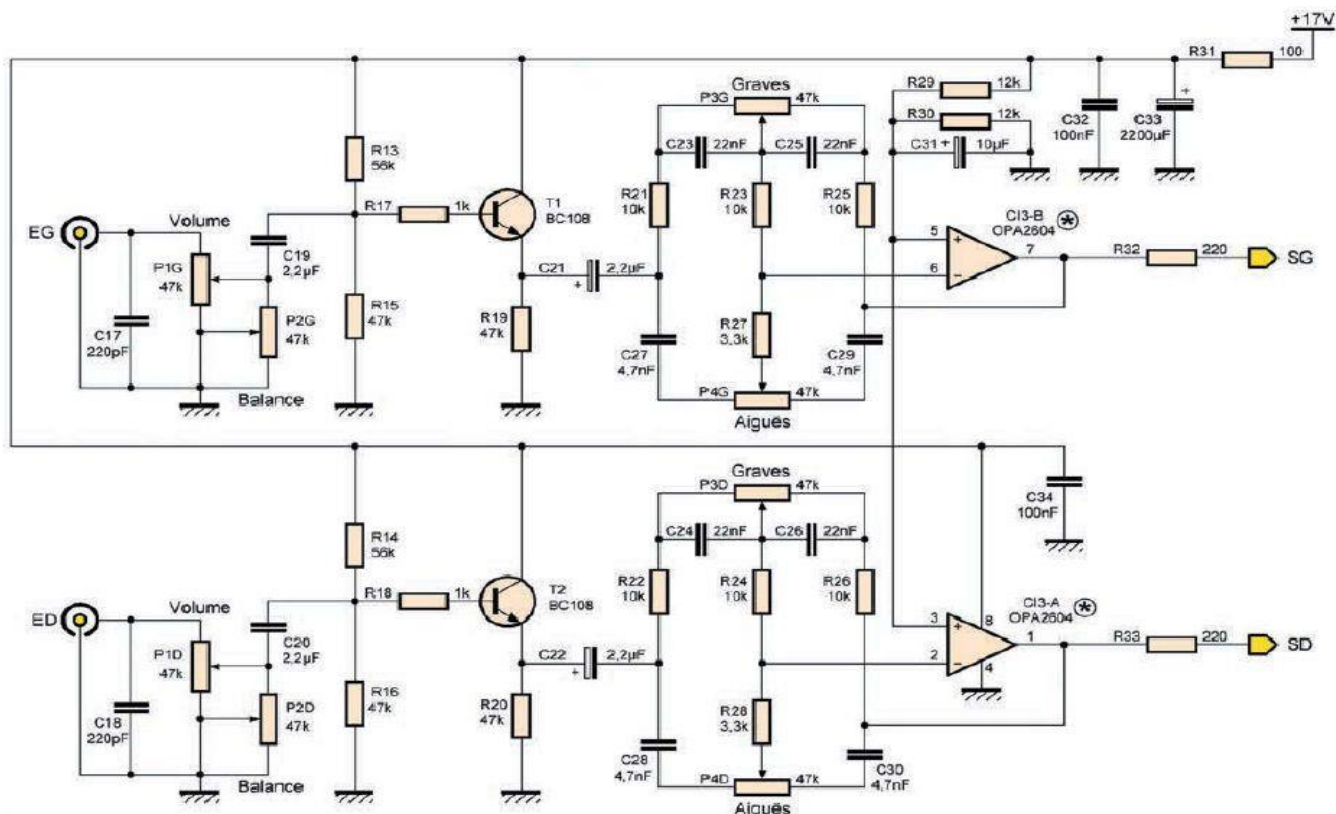


odyo ampli 22w 03-01 tda1554q



odyo ampli 24+24w 01-01 sta540





• Résistances 5% (ou 1%) / 1/2 W

R1, R12 : 1,2 k Ω (marron, rouge, rouge)
 R2, R3, R8, R9 : 27 k Ω (rouge, violet, orange)
 R4 à R7, R29, R30 : 12 k Ω (marron, rouge, orange)
 R10 : 10 Ω (marron, noir, noir)
 R11, R21 à R26 : 10 k Ω (marron, noir, orange)
 R13, R14 : 56 k Ω (vert, bleu, orange)
 R15, R16, R19, R20 : 47 k Ω (jaune, violet, orange)
 R17, R18 : 1 k Ω (marron, noir, rouge)
 R27, R28 : 3,3 k Ω (orange, orange, rouge)
 R31 : 100 Ω (marron, noir, marron)
 R32, R33 : 220 Ω (rouge, rouge, marron)

• Potentiomètres

P1 : 2 x 47 k Ω à courbe logarithmique
 P2, P3, P4 : 2 x 47 k Ω à courbe linéaire

• Condensateurs

C1 à C4 : 4 700 μ F à 10 000 μ F / 35 V (SNAP-IN)
 C5 à C9 : 100 nF (Wima MKT ou MKP pas 10,16 mm)

C10, C11, C19 à C22 : 2,2 μ F / 35 V (sorties radiales)

C12, C13 : 10 pF (Murata ou céramique)
 C14, C32, C34 : 100 nF (LCC pas 5,08 mm)
 C15, C31 : 10 μ F / 35 V (sorties radiales)
 C16 : 100 μ F / 35 V (sorties radiales)
 C17, C18 : 220 pF (Murata ou mica argentée)
 C23 à C26 : 22 nF (LCC pas 5,08 mm)
 C27 à C30 : 4,7 nF (LCC pas 5,08 mm)
 C33 : 2 200 μ F / 35 V (sorties radiales)

• Semiconducteurs

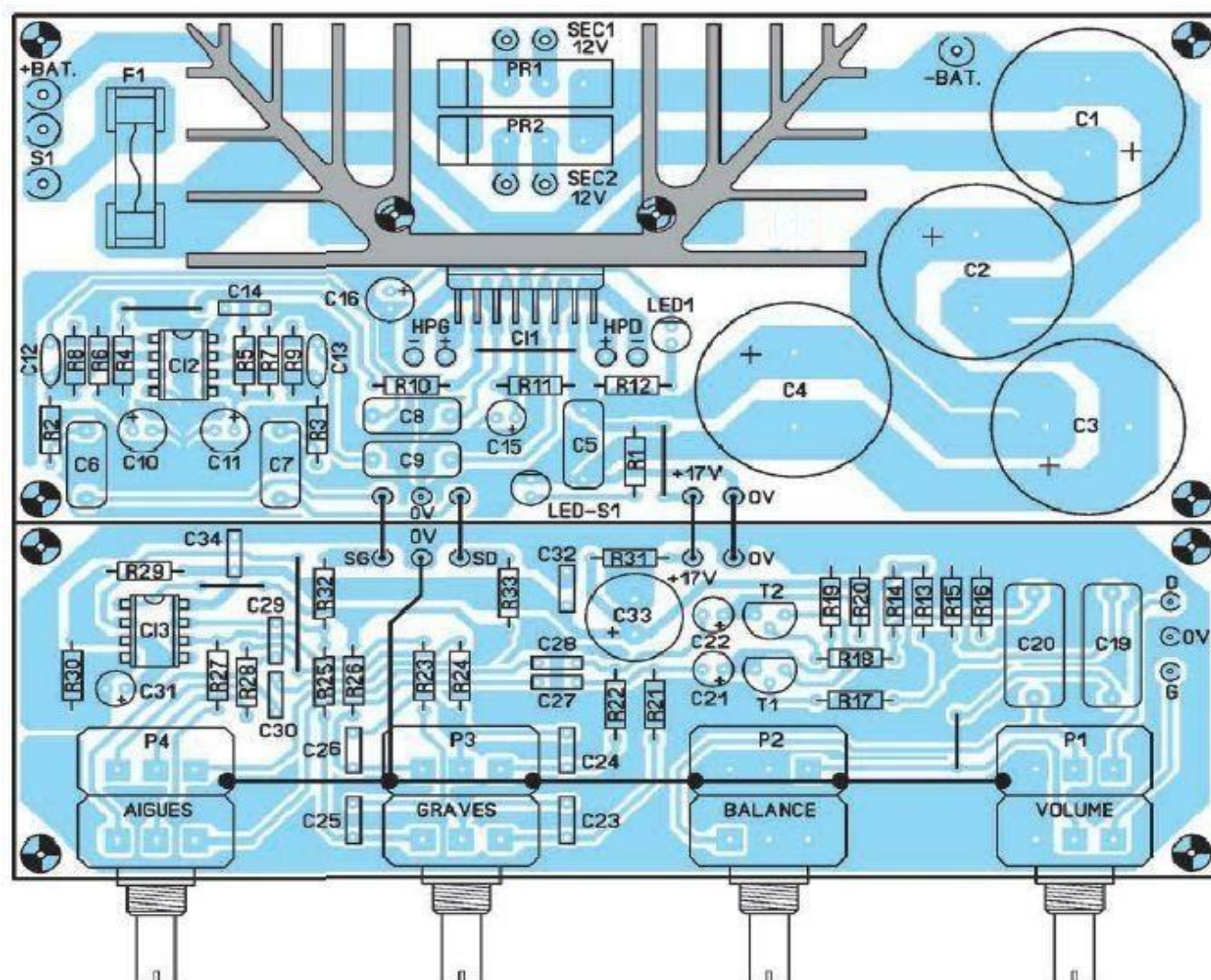
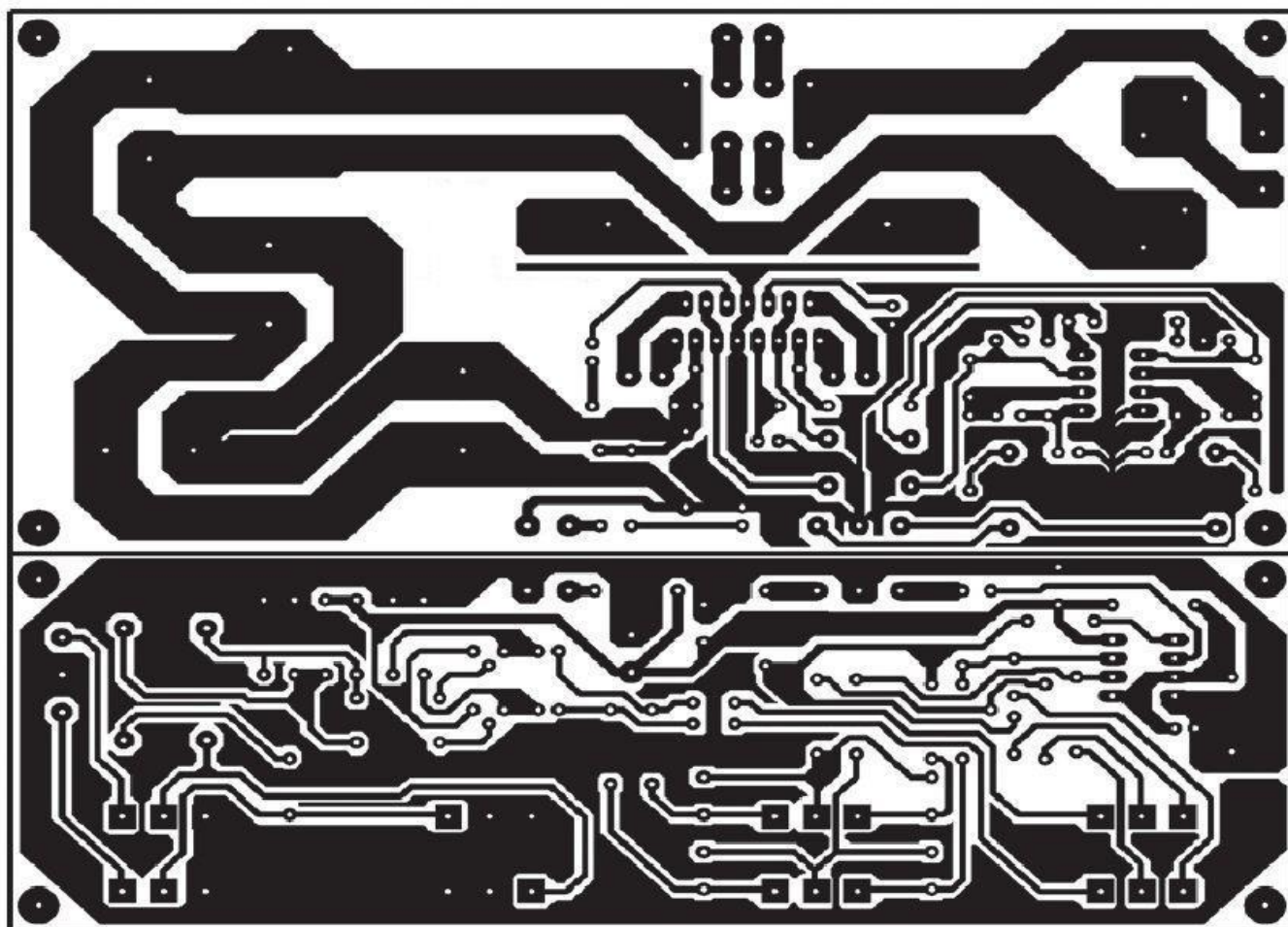
PR1, PR2 : pont KBU1006 ou équivalent (St-Quentin Radio, Gotronic)
 C11 : STA540 (St-Quentin Radio ou Sparkfun)
 C12, C13 : OPA2604 ou TL072
 T1, T2 : BC108
 D1 : BYT12PI100 ou équivalent (St-Quentin Radio, Gotronic)
 LED1 : \varnothing 5 mm rouge

• Divers

1 transformateur torique de 2 x 12 V / 120 VA
 1 porte-fusible pour circuit imprimé
 1 fusible de 10 A en verre de 5 x 20

1 coffret HIFI 2000 Galaxy GX283 (St-Quentin Radio - Audiophonics)

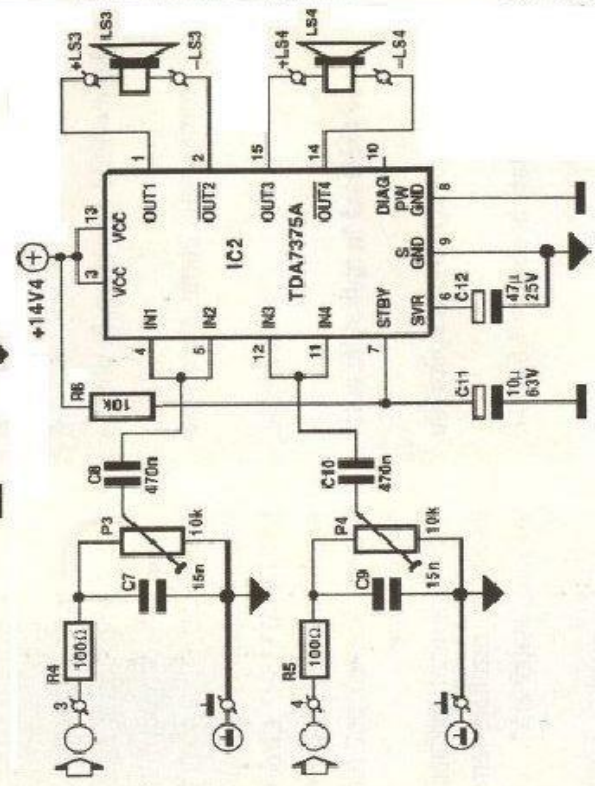
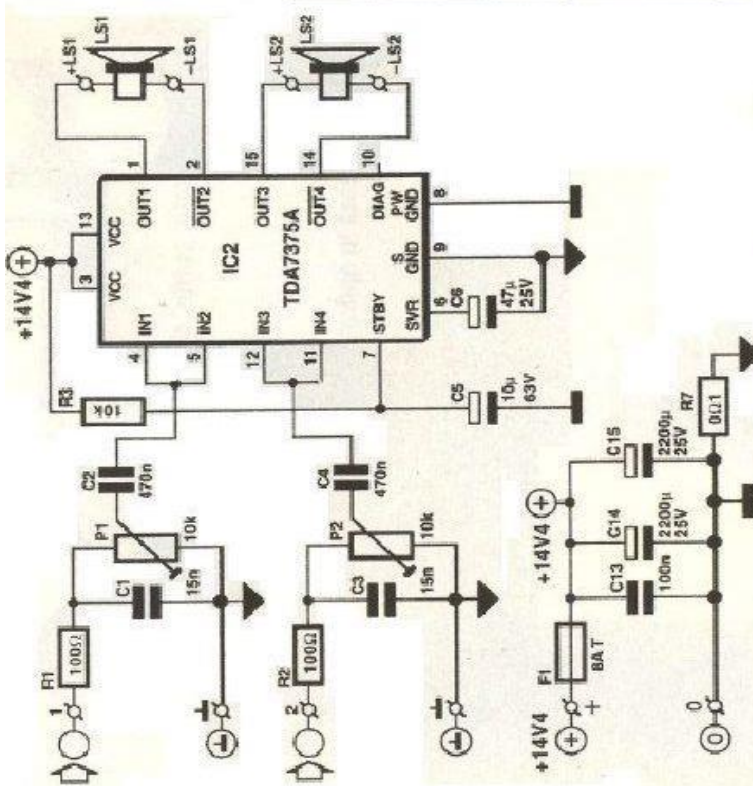
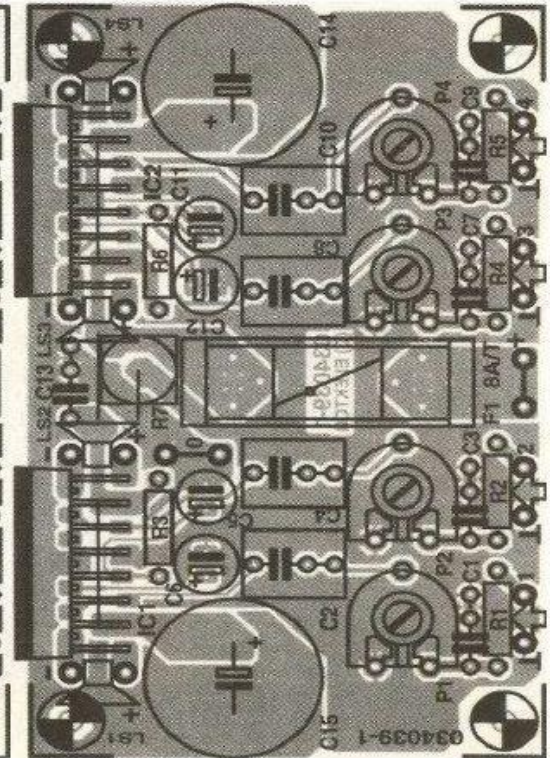
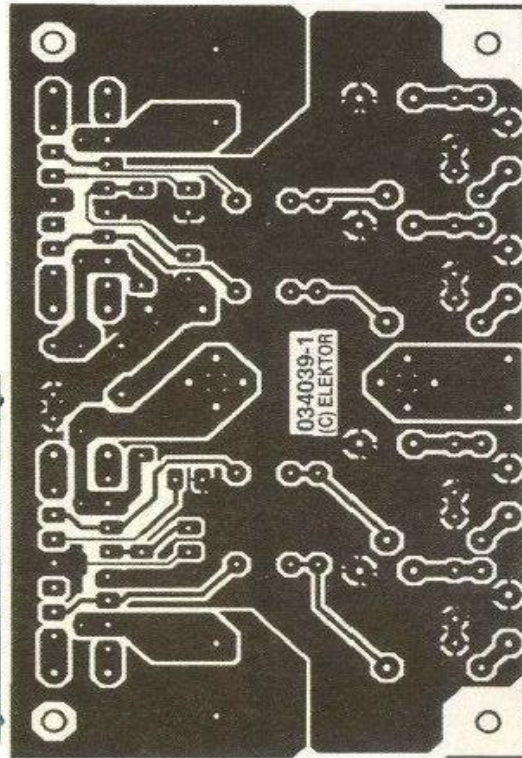
1 dissipateur thermique de type ML41, hauteur 40 mm
 2 supports de circuit intégré à 8 broches
 1 interrupteur \varnothing 16 mm, INOX, Cercle bleu, 250 V / 3 A avec led bleue (Gotronic, Audiophonics)
 1 filtre secteur Schaffner FN 394-6-05-11 (Prise, inter, fusibles 10 A & filtre)
 2 embases RCA (1 rouge et 1 blanche) dorées pour châssis
 6 embases bananes \varnothing 4 mm (pour enceintes et batterie : 3 rouges et 3 noires)
 4 boutons en aluminium, couleur «argent» (\varnothing 20 mm à 22 mm)
 Barrettes sécables «SIL» mâles et femelles, droites
 Cosses «poignard» pour circuits imprimés
 Câble blindé 2 conducteurs
 Fils souples de faible et forte section
 Gaine thermo-rétractable de plusieurs diamètres
 Entretoises filetées M3
 Visserie métal \varnothing 3, 4 et 6 mm

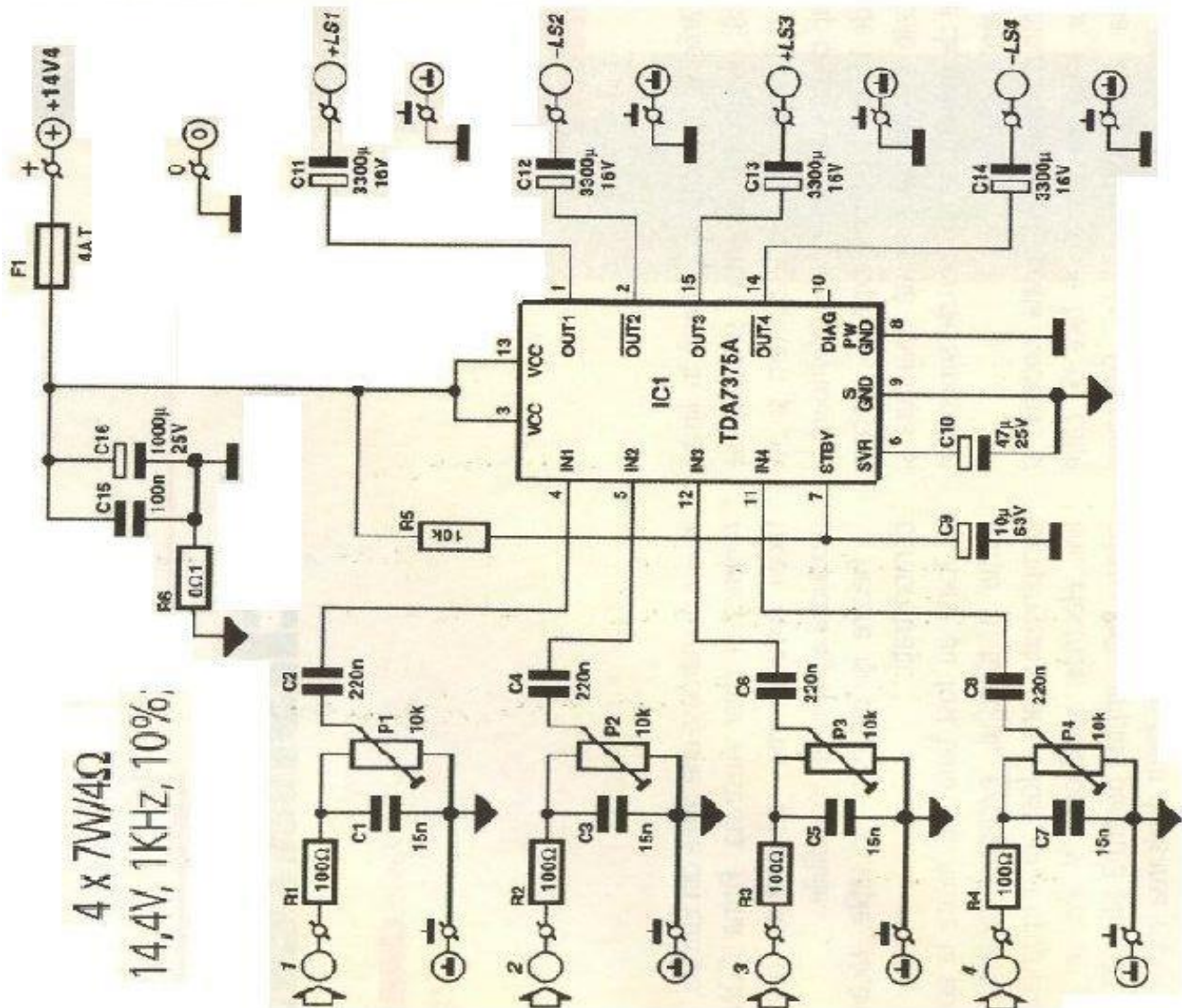
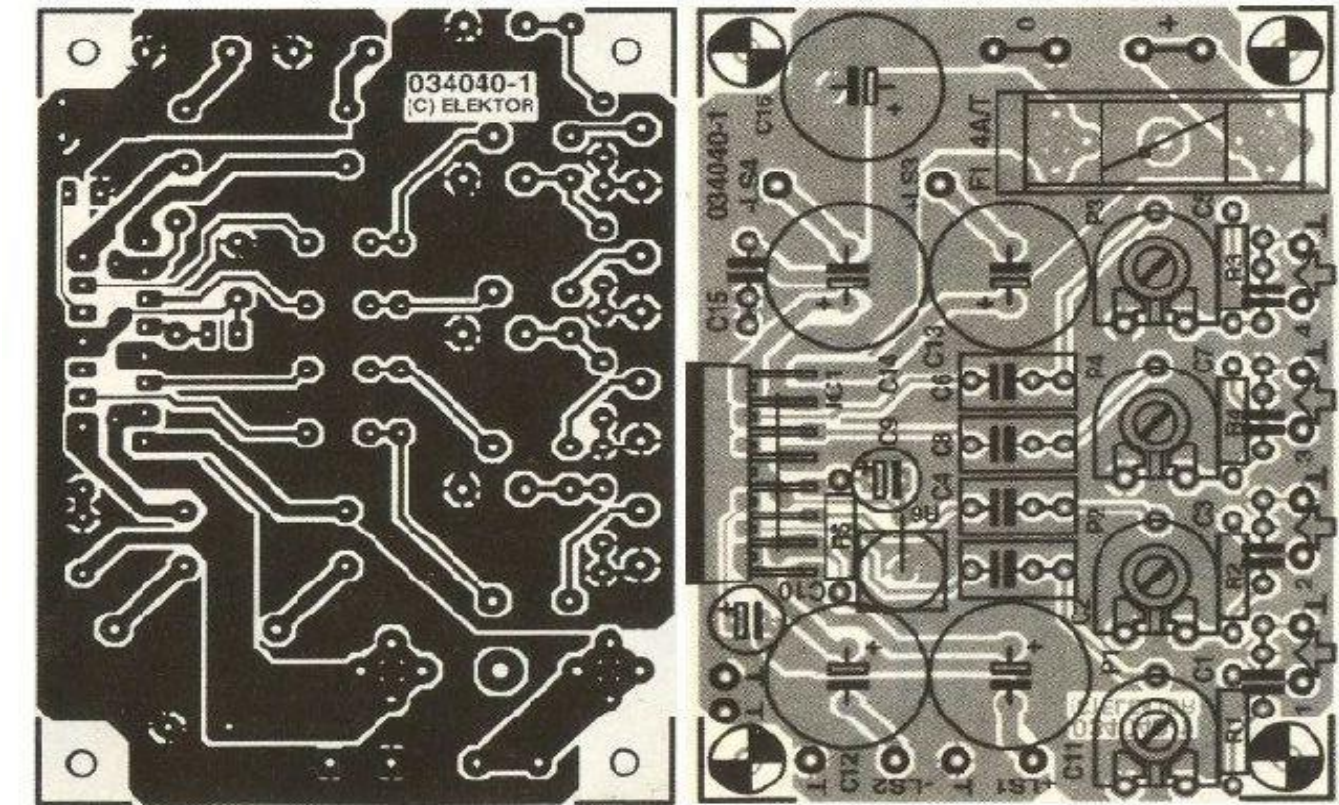




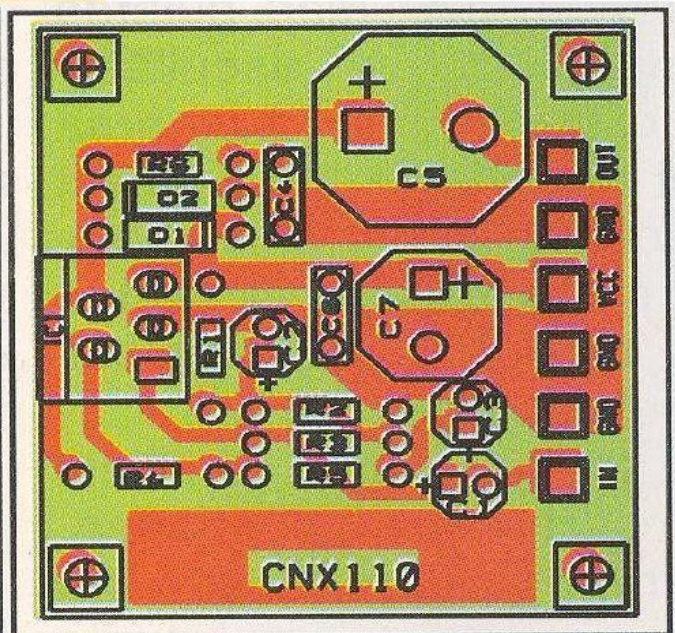
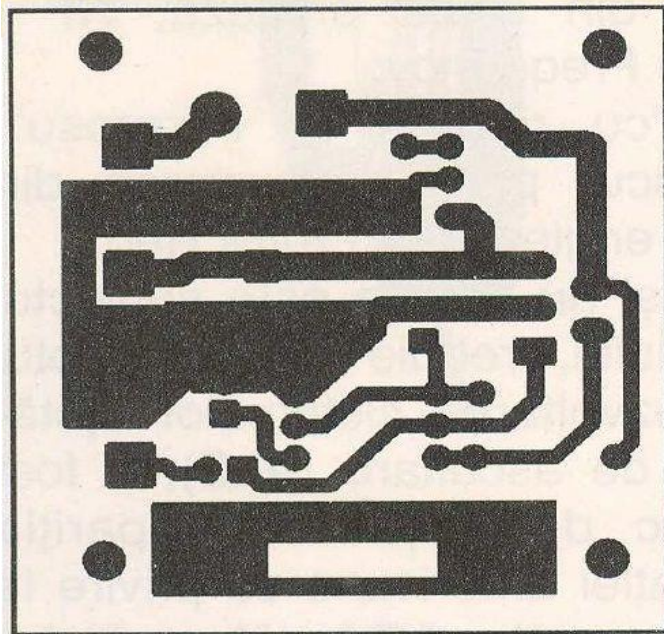
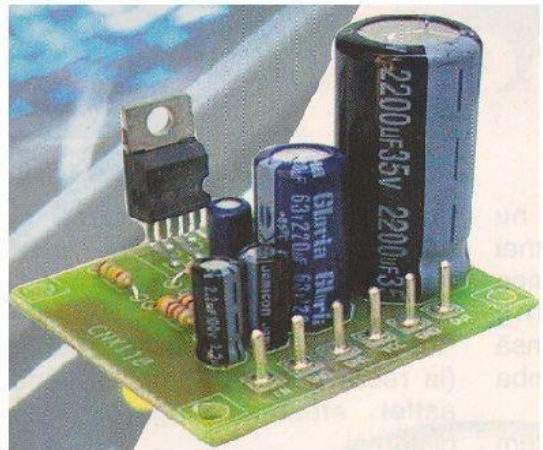
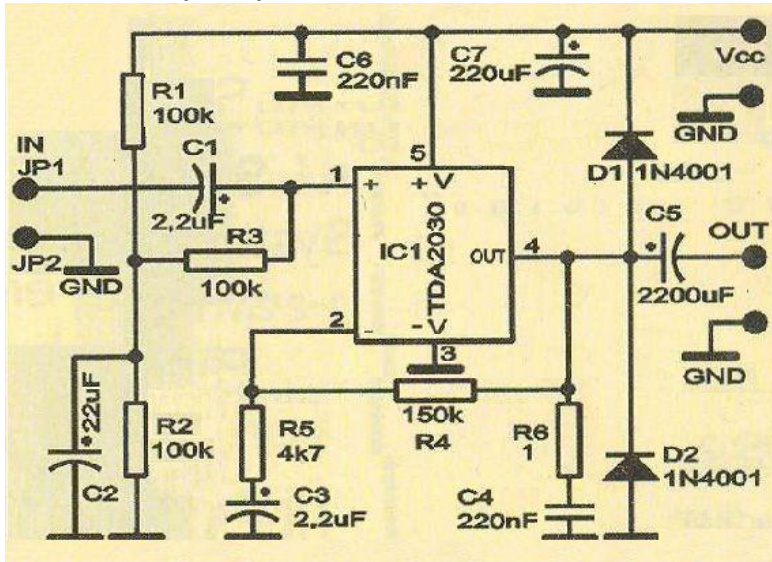
2 x 25W/4Ω

14,4V, 1KHz, 10%;

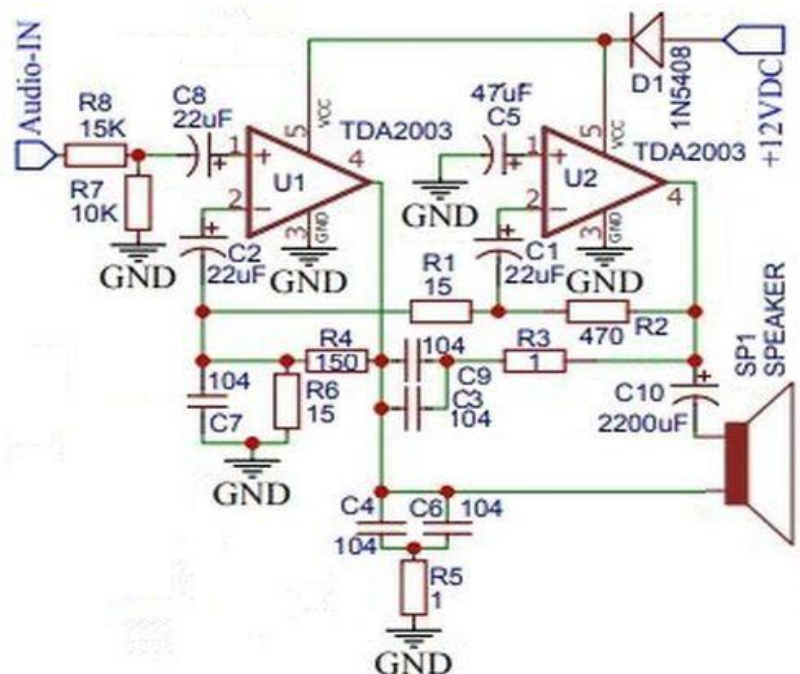


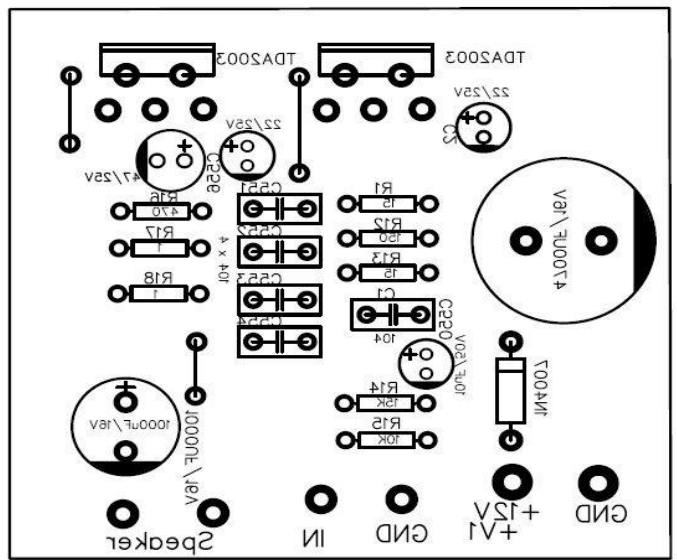
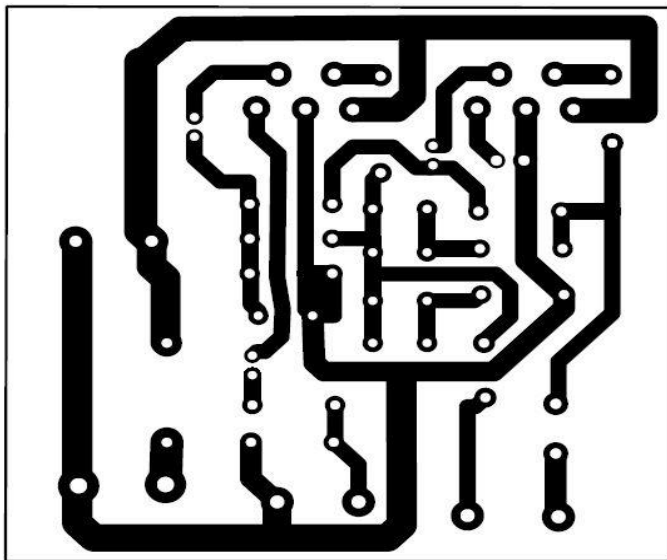


odyo ampli 25w 01-01 tda2030

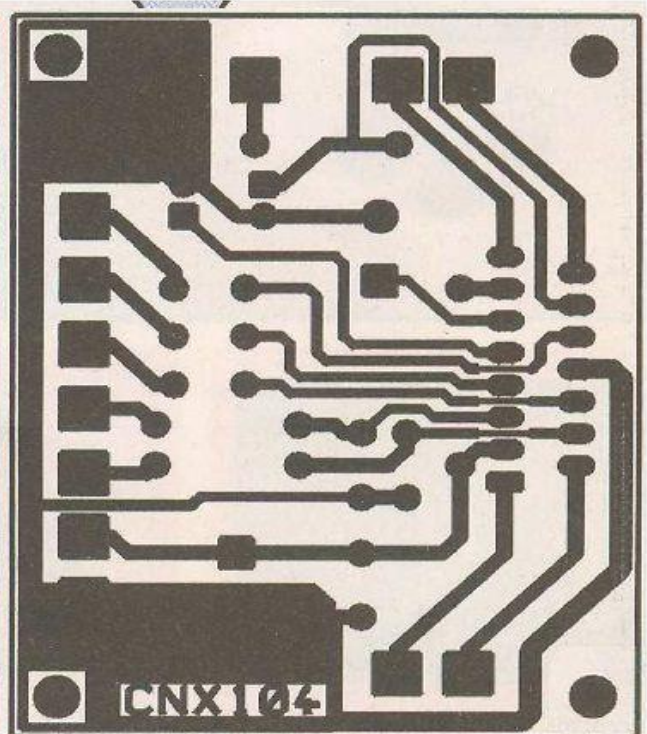
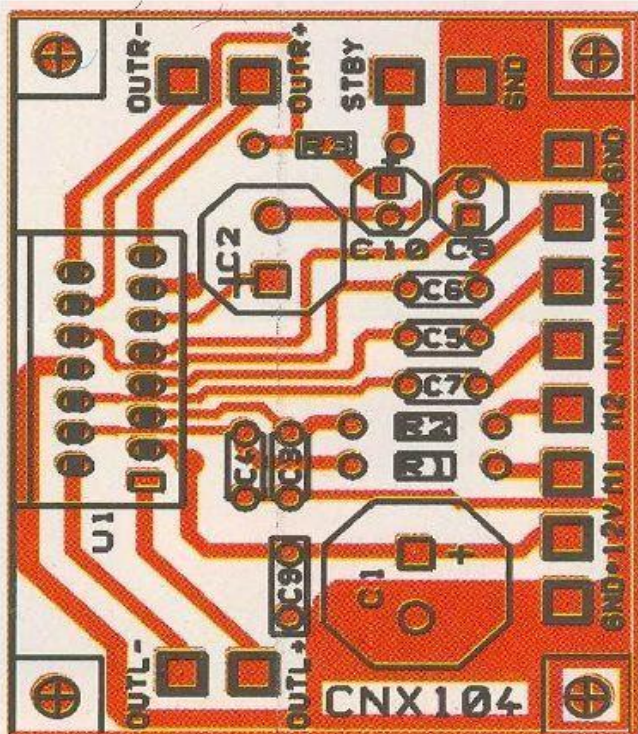
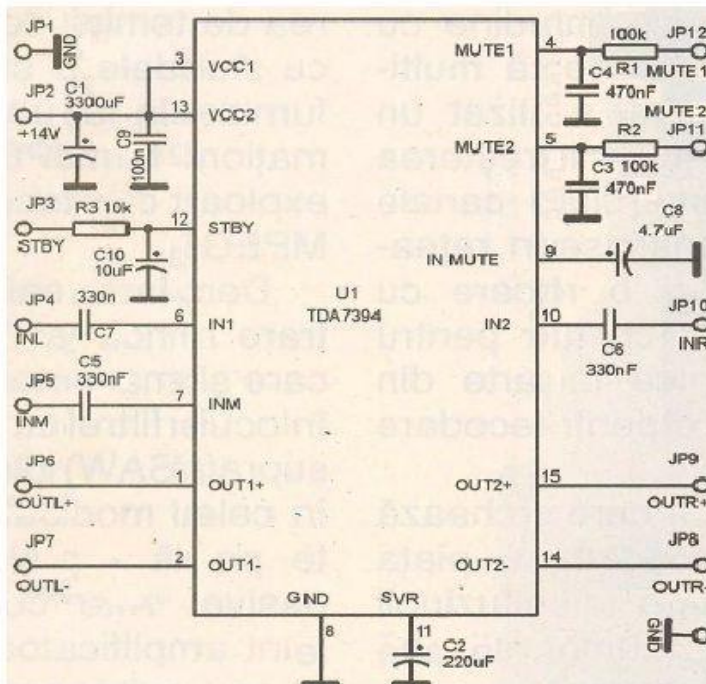


odyo ampli 25w 02-01 tda2030

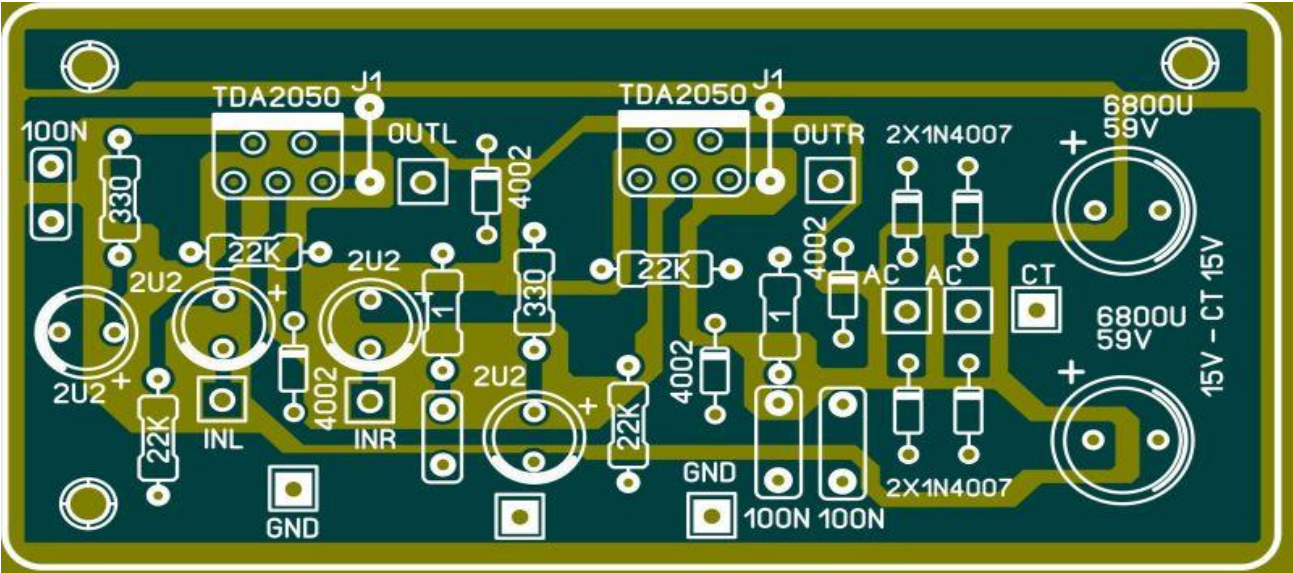
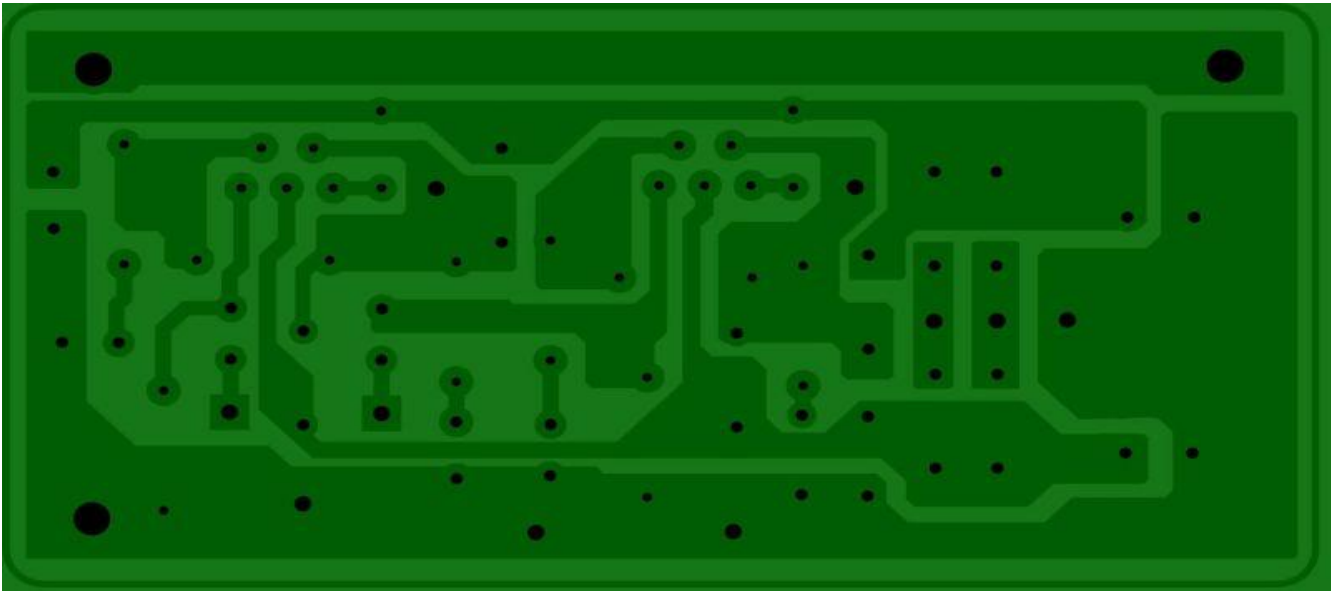




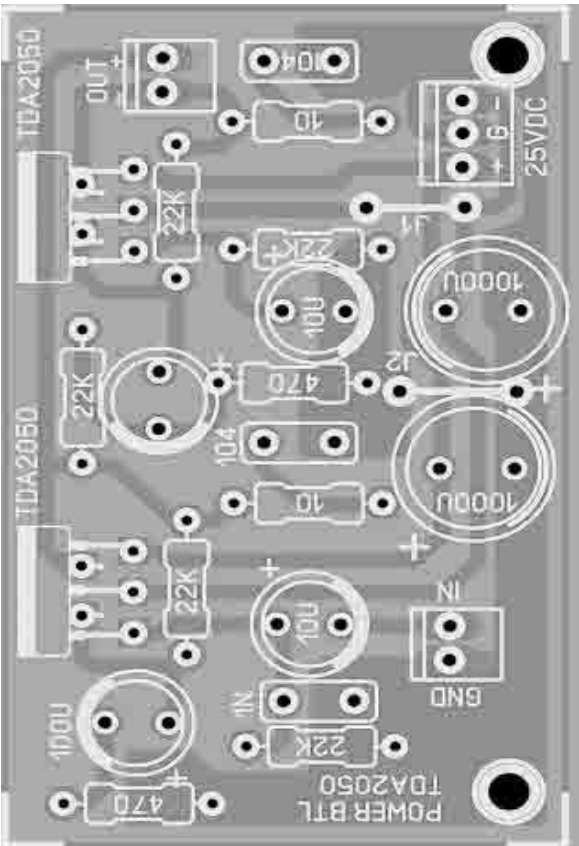
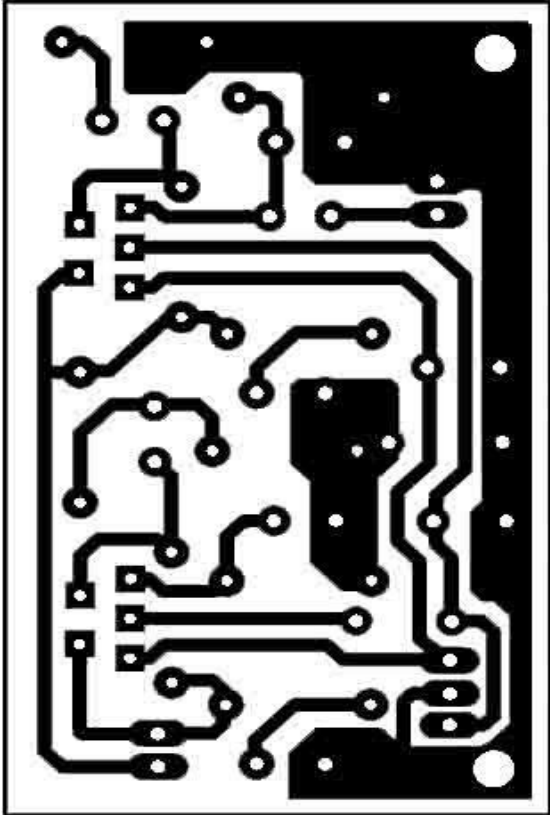
odyo ampli 30+30w 01-01 tda7394



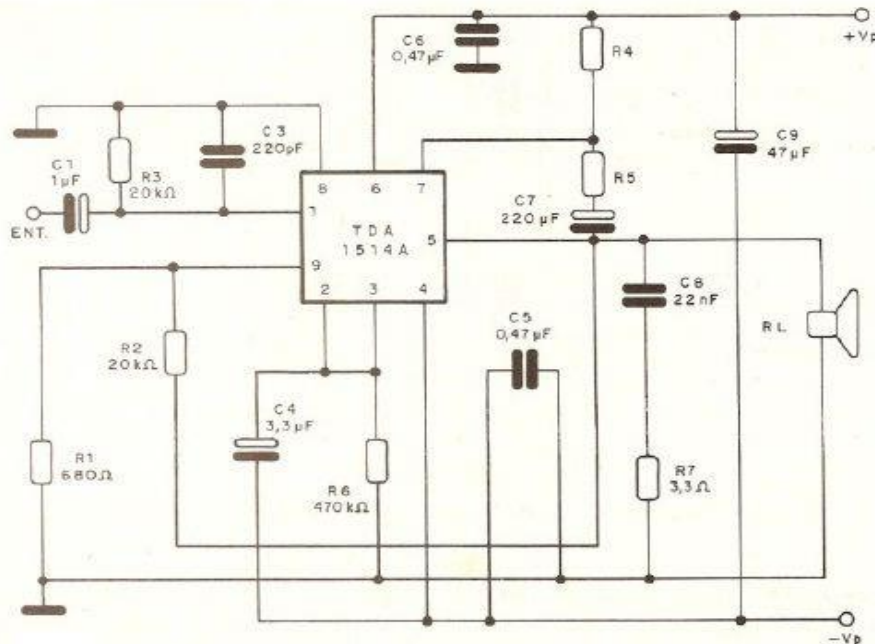
odyo ampli 32w 01-01 tda2050



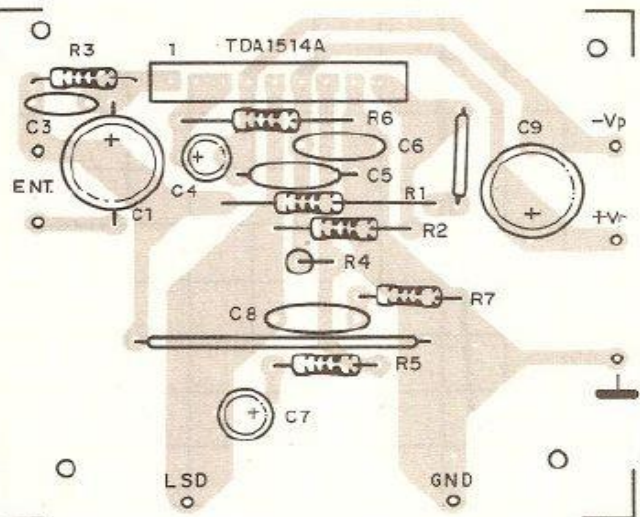
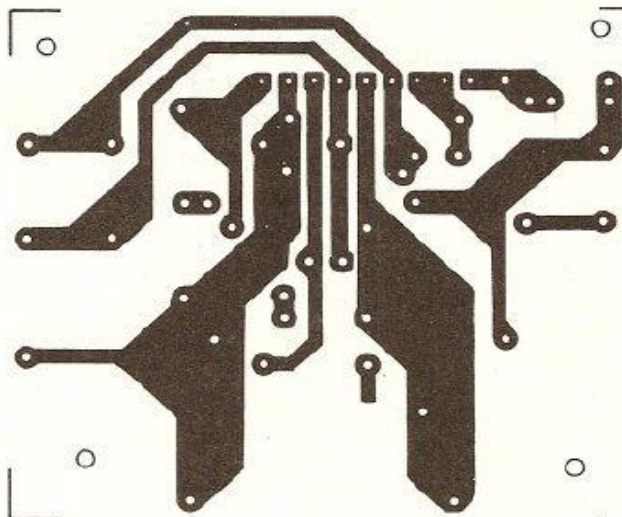
odyo ampli 32w 02-01 tda2050



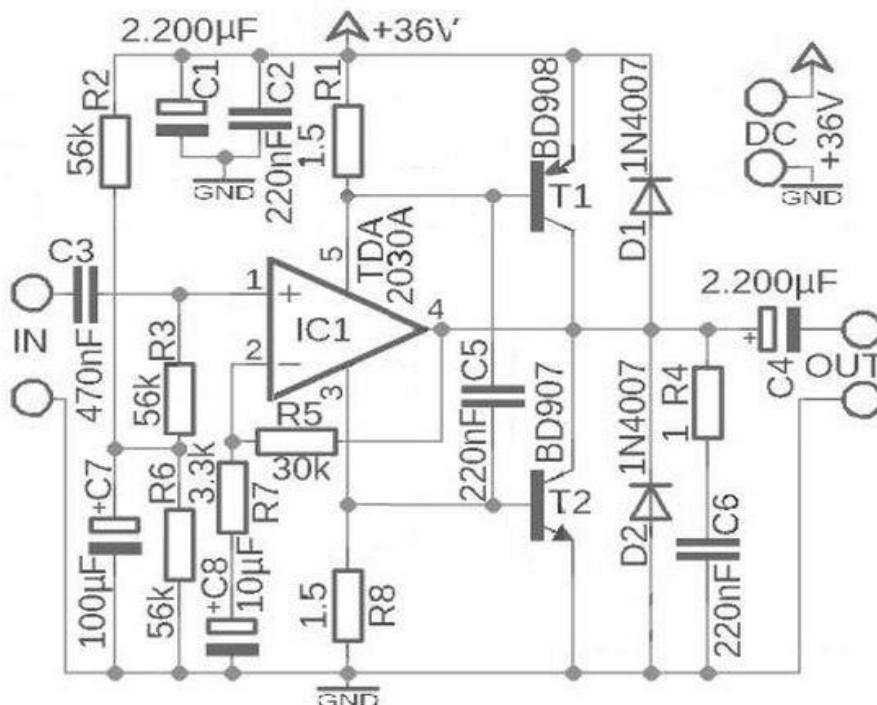
odyo ampli 40+40w 01-01 tda1514a



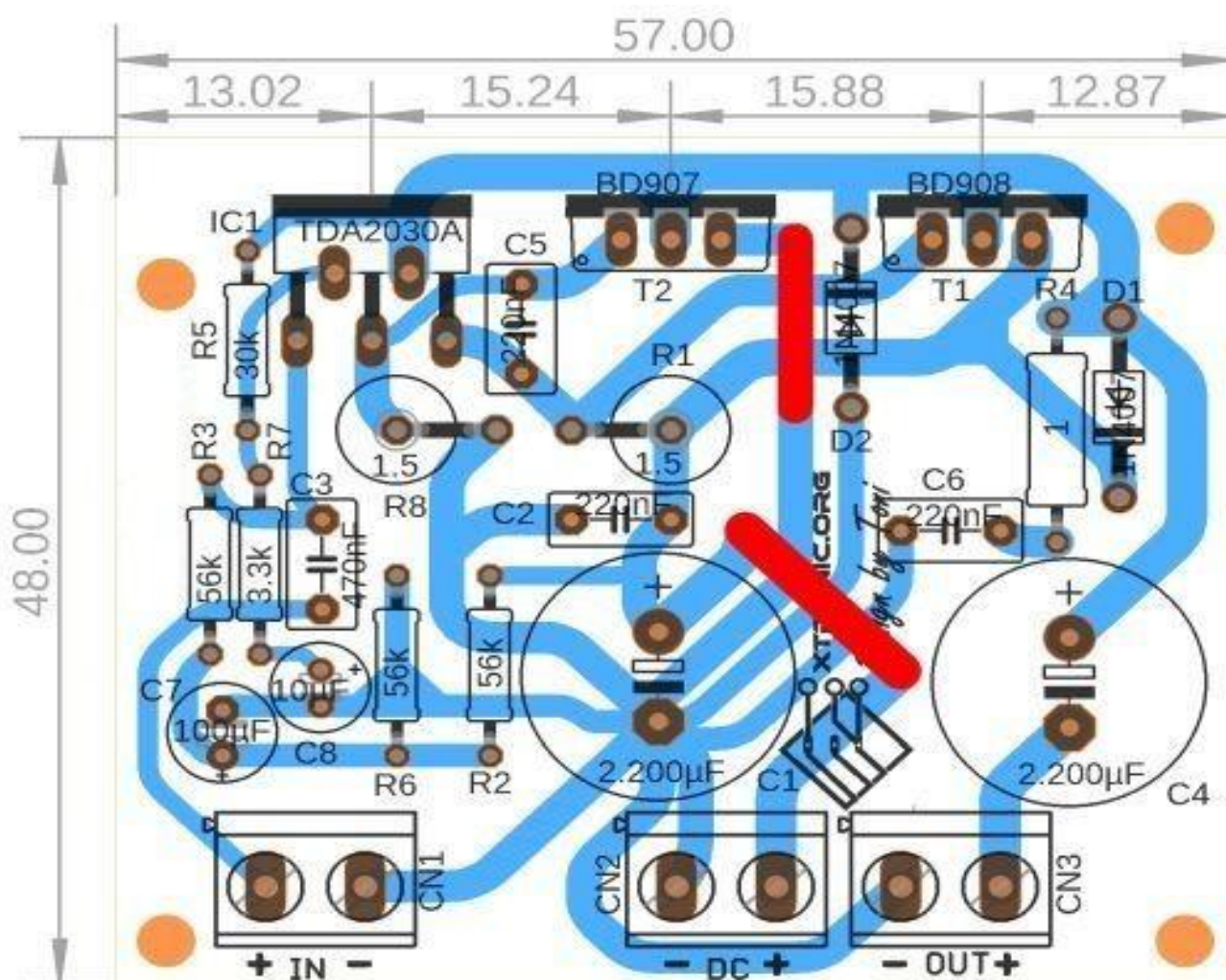
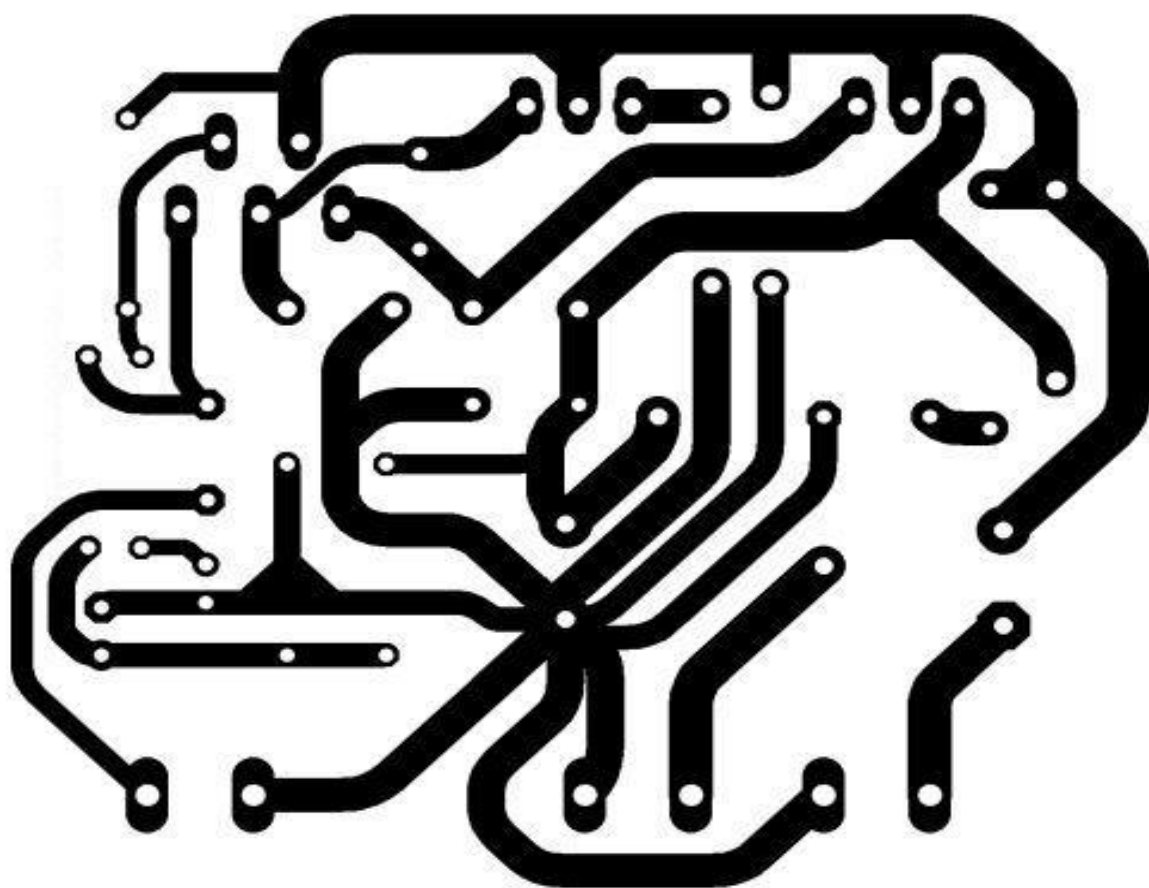
Amplificador - 1 canal
Semicondutores:
CI-1 - TDA1514A - circuito integrado SID-PHILIPS
Resistores: (1/8 W, 5%)
R1 - 680 Ω
R2 e R3 - 20 kΩ
R4 e R5 - ver texto
R6 - 470 kΩ
R7 - 3,3 Ω
Capacitores: (eletrolíticos para 35 V)
C1 - 1 µF - eletrolítico
C2 - não usado
C3 - 220 pF - cerâmico
C4 - 3,3 µF - eletrolítico
C5 e C6 - 470 nF - cerâmicos
C7 - 220 µF - eletrolítico
C8 - 22 nF - cerâmico ou poliéster
C9 - 47 µF - eletrolítico



odyo ampli 40w 01-01 tda2030-bd907-bd908



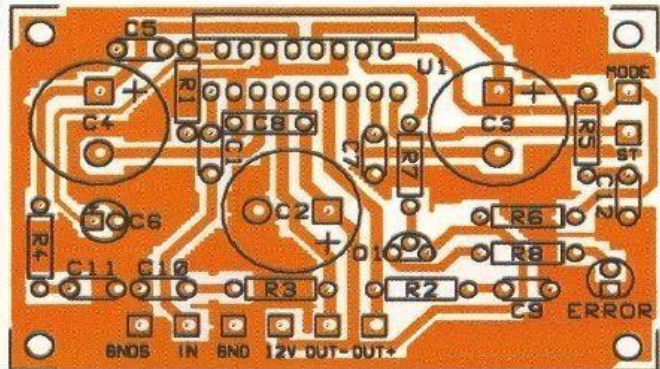
Resistors 1/4 W* 5%
R1* R8* 1.5 Ohms = 2-Watt
R2, R3, R6 56k
R4 10hm
R5 30k = 27K + 3.3K
R7 3.3k =
Capacitors
C1, C4 2.200µF/50V
C2, C5, C6 0.22µF
Semiconductors
D1, D2 1N4007 or equivalent
T1 TDA2030A
T2 BD908 or equivalent
BD907 or equivalent



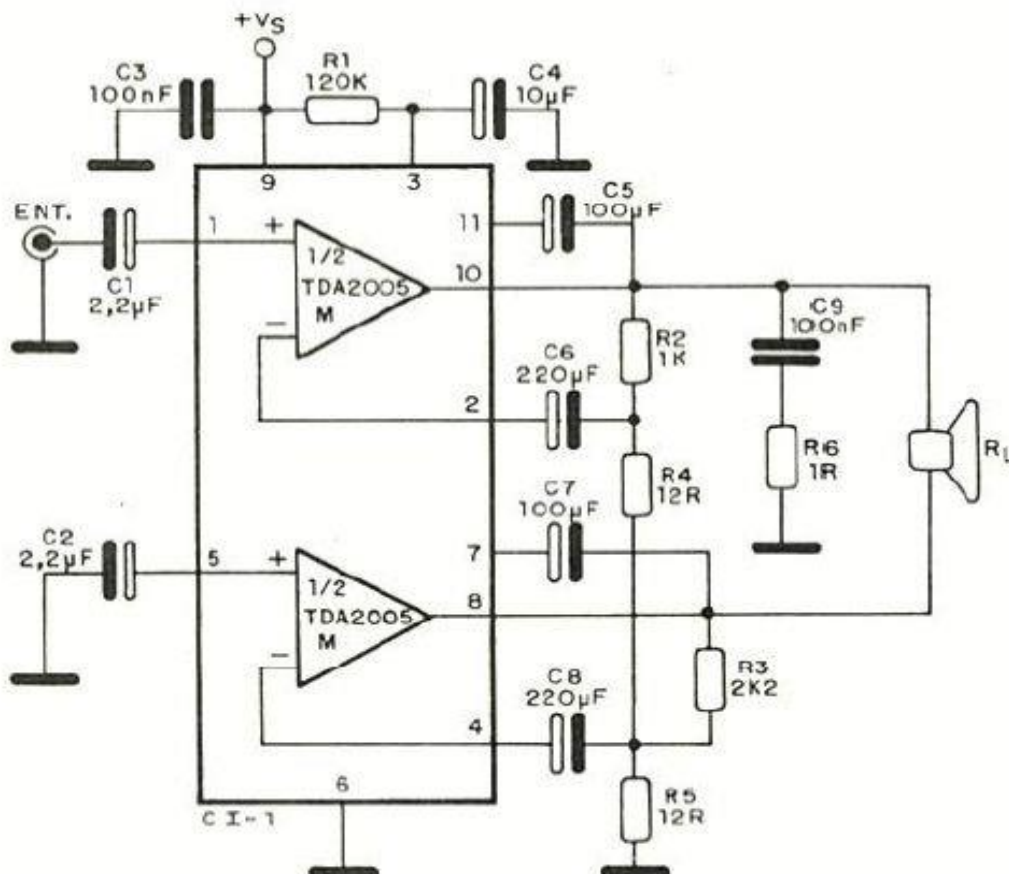
odyo ampli 40w 02-01 tda1560

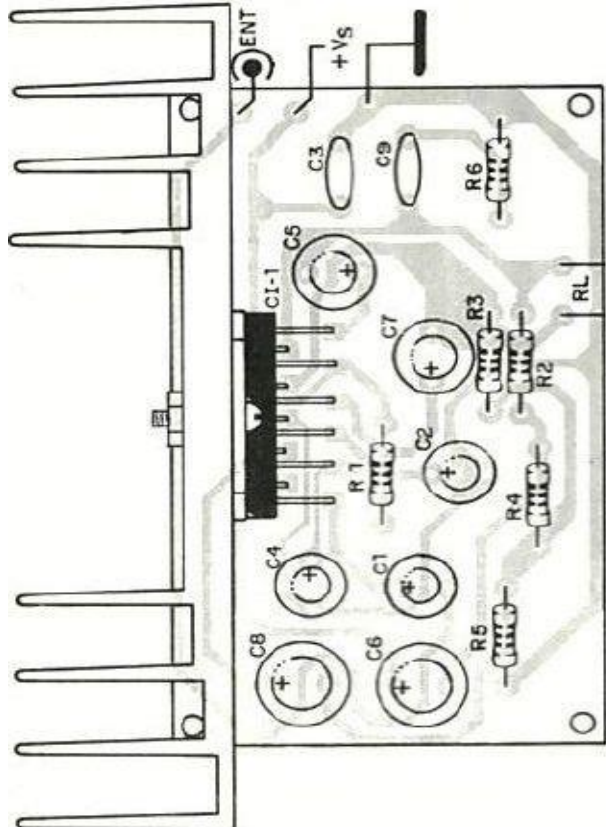
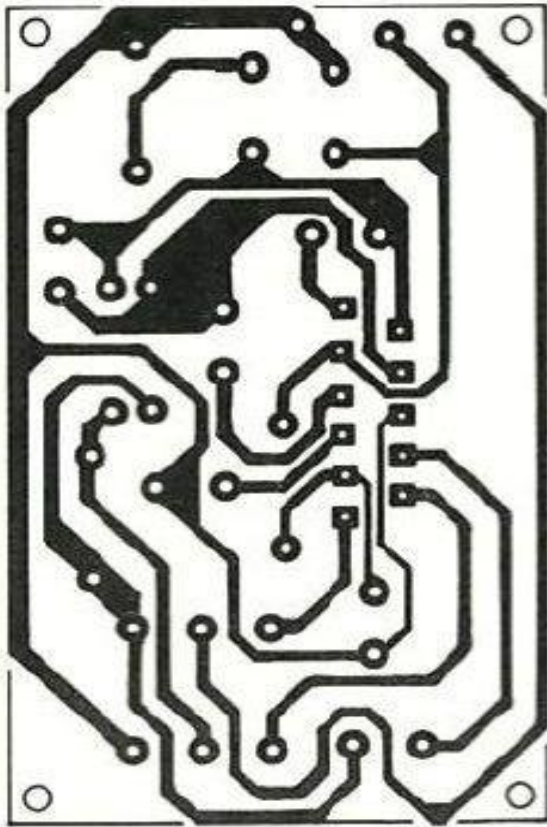


40W class H

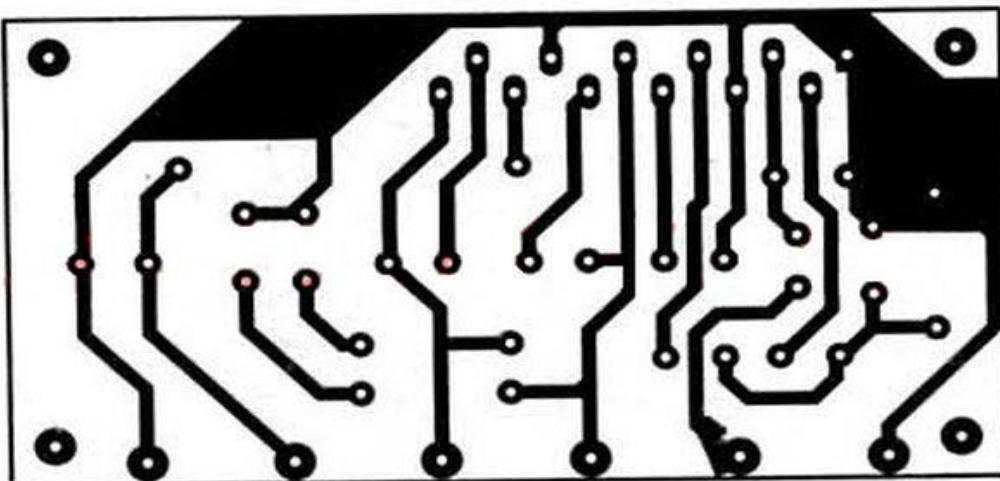
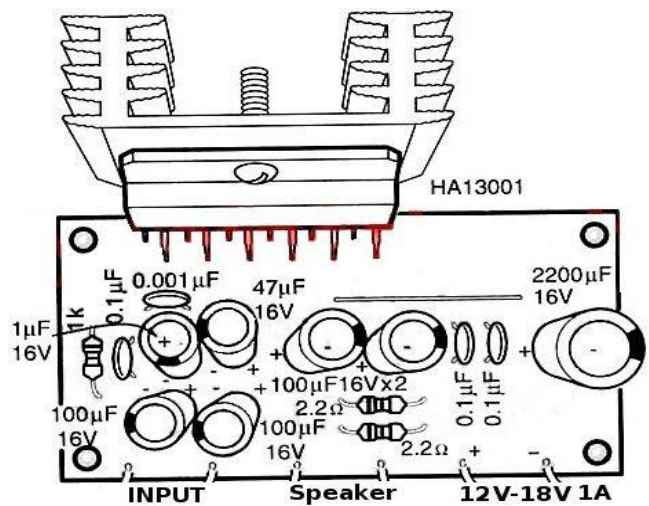
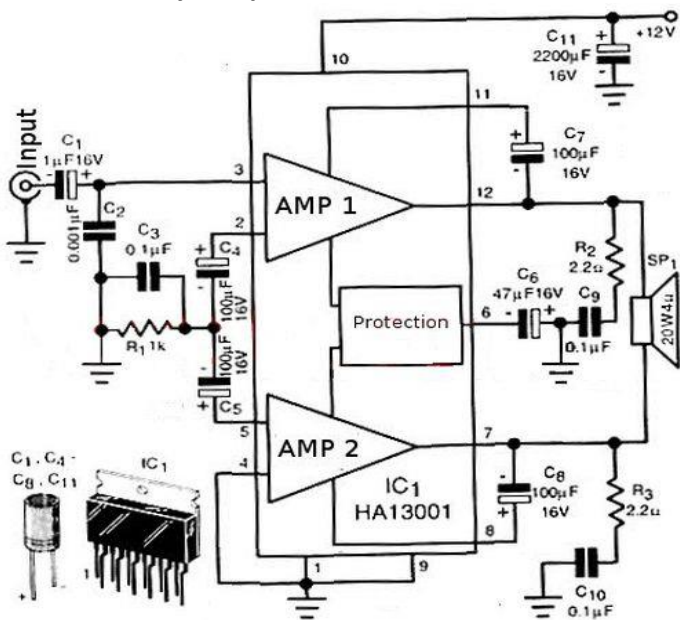


odyo ampli 40w 03-01 tda2005

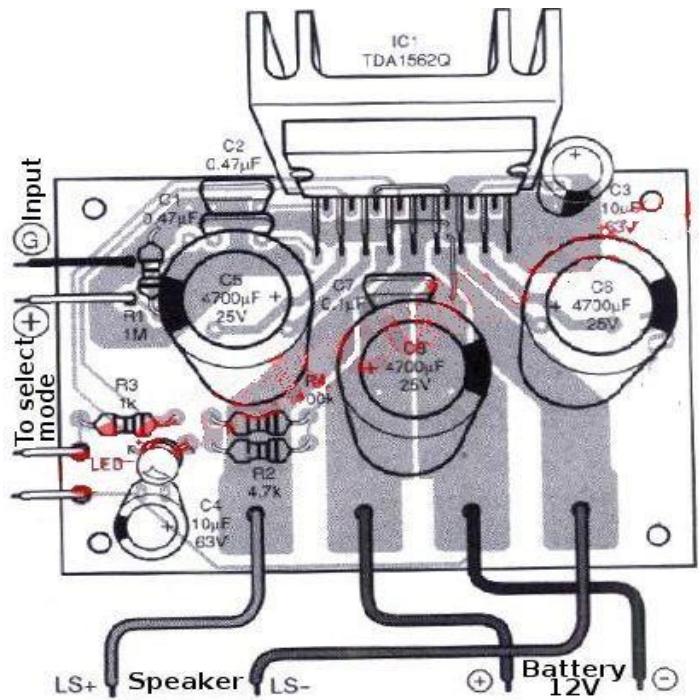
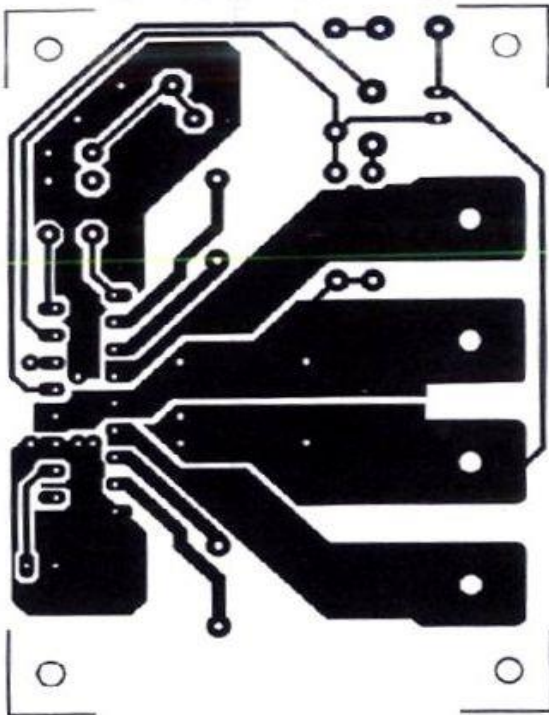
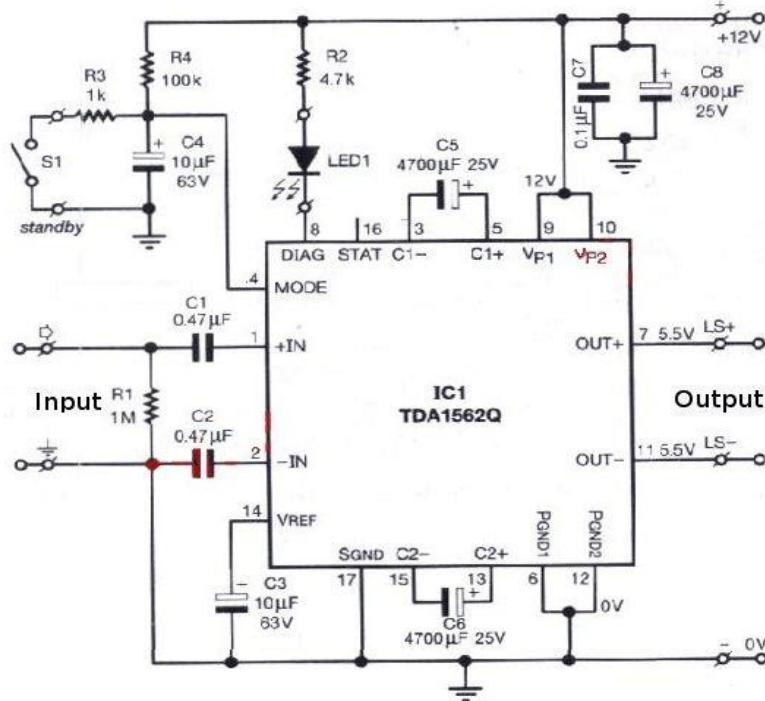




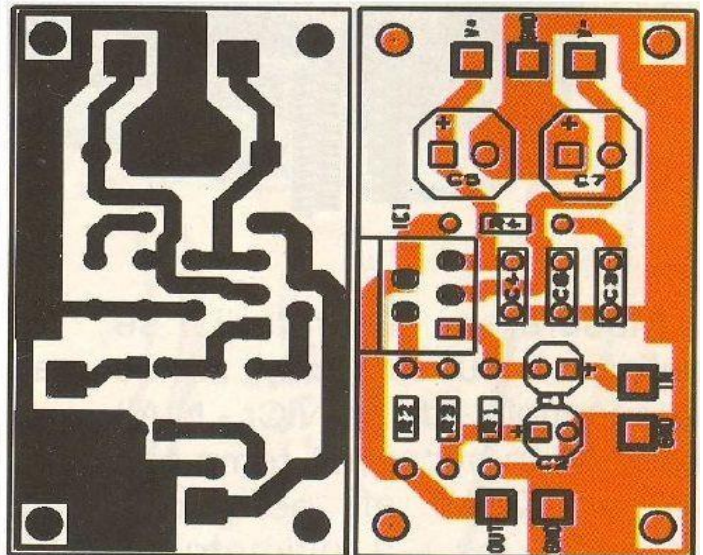
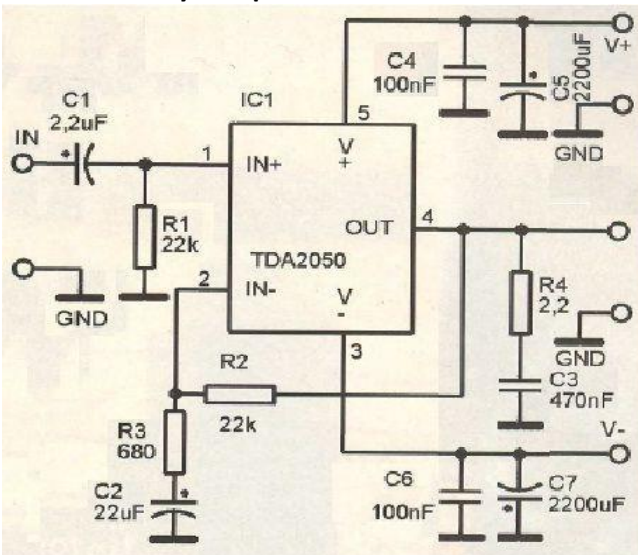
odyo ampli 40w 04-01 ha13001

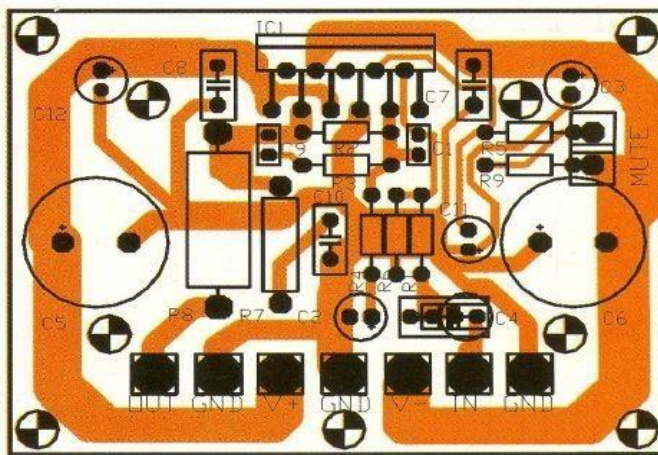
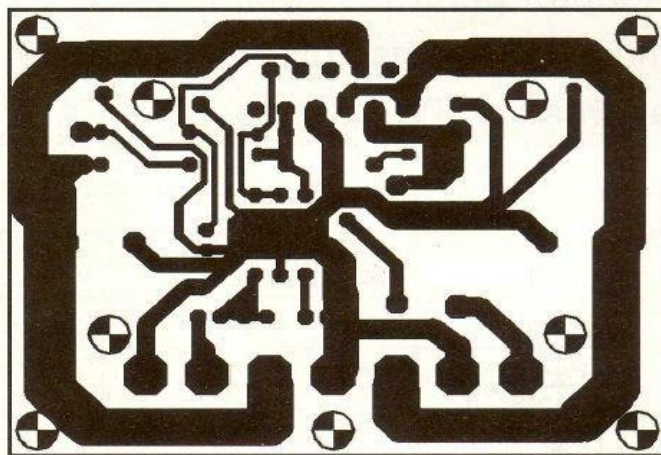


odyo ampli 50w 01-01 tda1562q

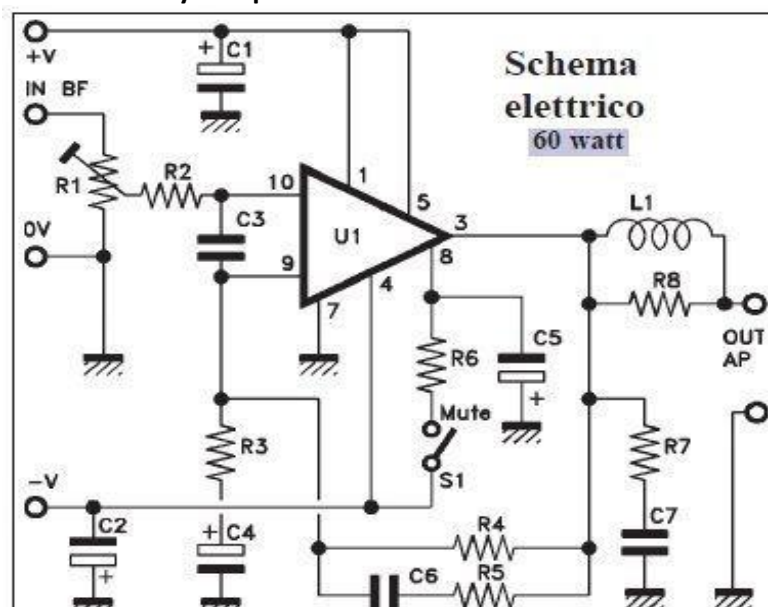


odyo ampli 50w 02-01 tda2050





odyo ampli 60w 03-01 lm3886

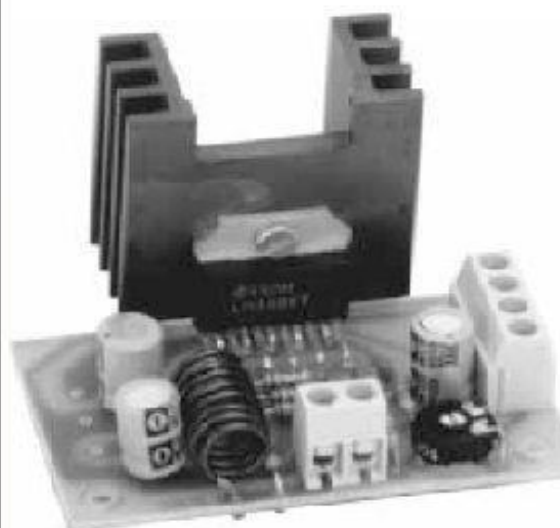
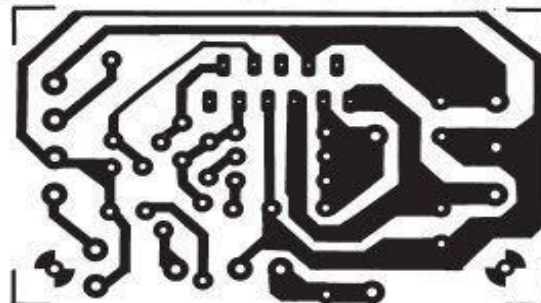
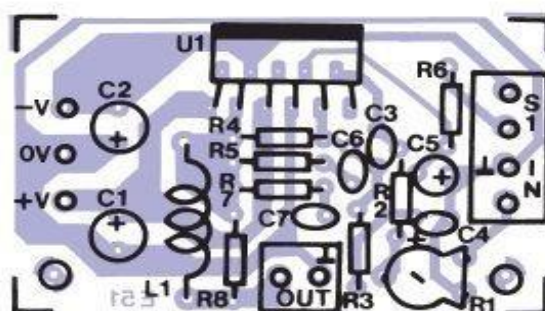


COMPONENTI	
R1: 10 Kohm trim	C1: 47 μ F 50V
R2: 1 Kohm	C2: 47 μ F 50 V
R3: 1 Kohm	C3: 220 pF ceramico
R4: 22 Kohm	C4: 10 μ F 35 VI tantal
R5: 22Kohm	C5: 47 μ F 50 VI
R6: 22 Kohm	C6: 47 pF ceramico
R7: 2,7 ohm	C7: 100nF multistrato
R8: 10 ohm	U1: LM3886
L1: vedi testo	S1: deviatore

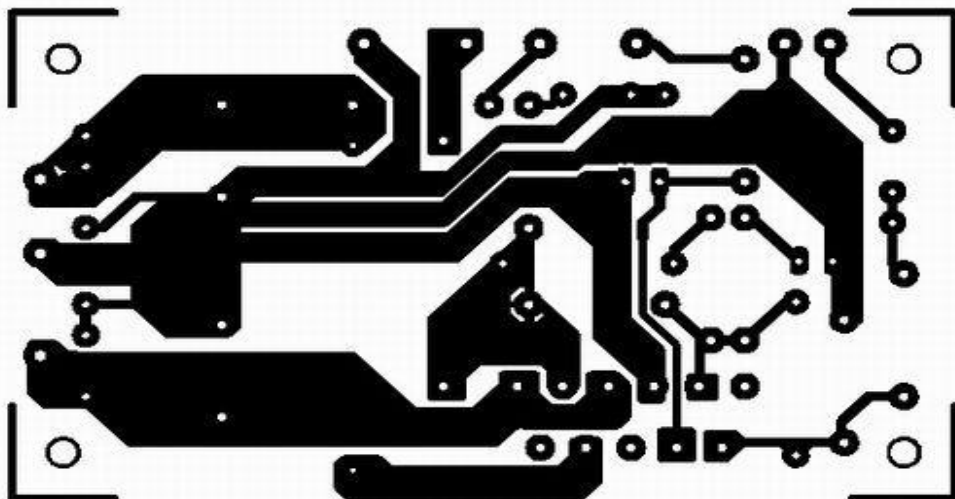
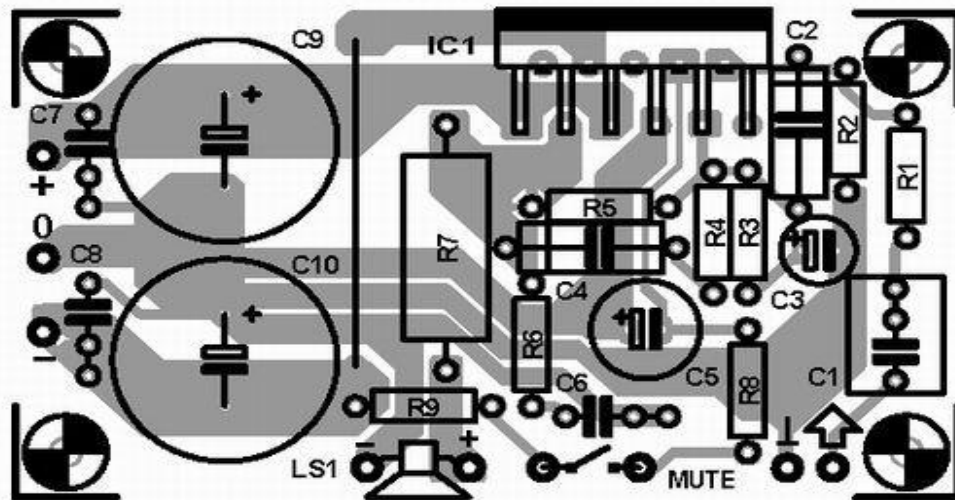
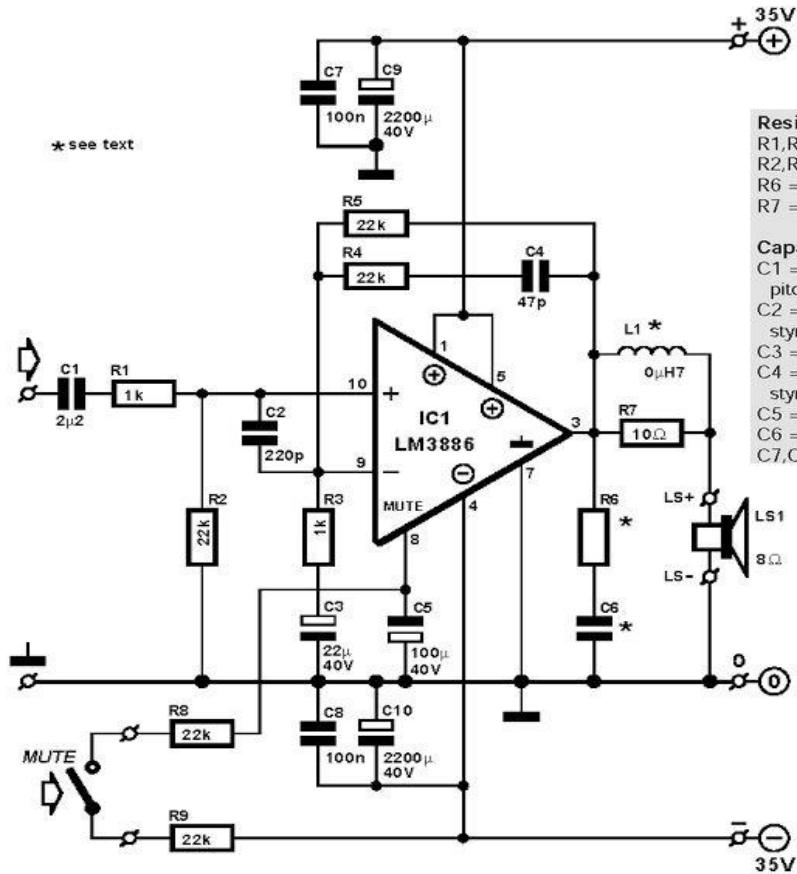
Varie:
 -Morsetto p. 5 (3pz)
 -C.S. cod. E51
 -Dissipatore ML33

CARATTERISTICHE TECNICHE

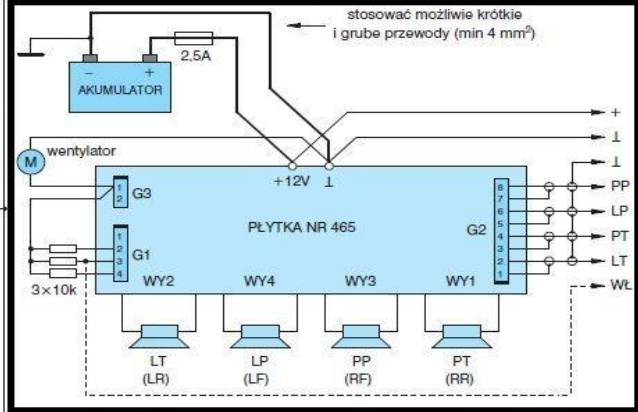
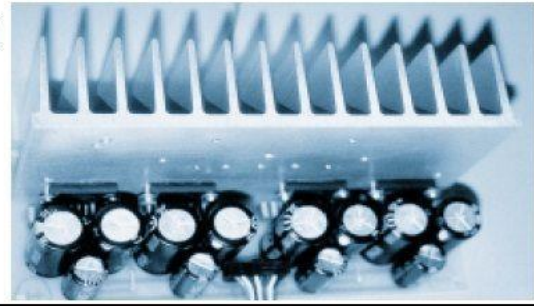
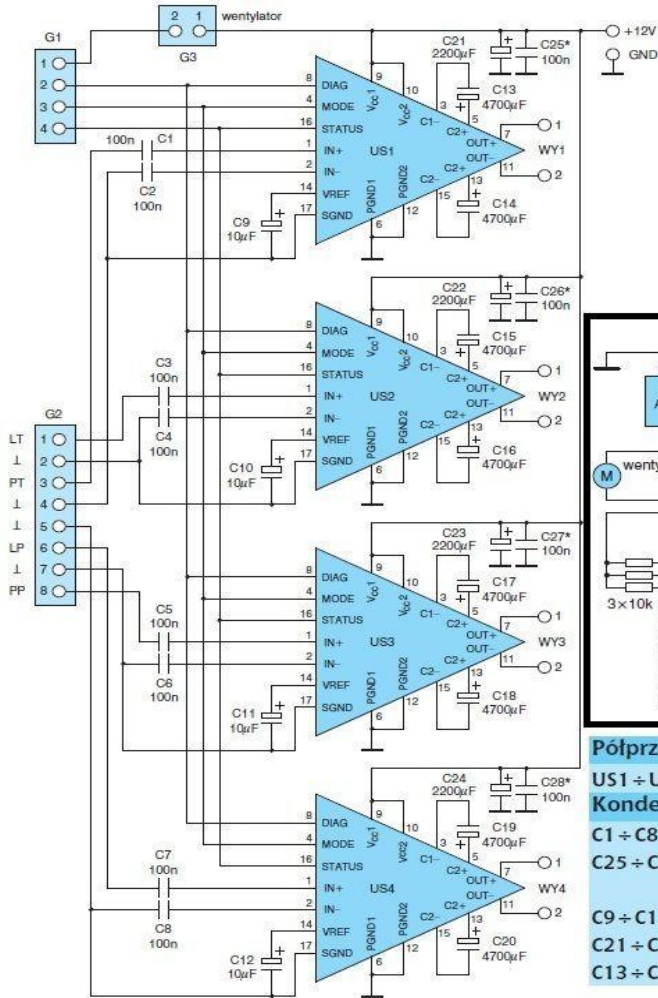
Potenza di uscita (4 Ohm)	60 watt
Potenza di uscita (8 Ohm)	50 watt
Potenza di picco istantanea	150 watt
Banda Passante (Hz)	20-20.000 Hz
Rapporto segnale/disturbo (a 1 W)	92 dB
Distorsione armonica totale	0,03%
Sensibilità d'ingresso	750 mV
Tensione di alimentazione (4 Ohm)	\pm 28 volt
Tensione di alimentazione (8 Ohm)	\pm 35 volt



odyo ampli 68w 01-01 lm3886



odwo ampli 70+70+70+70w 01-01 tda1562q

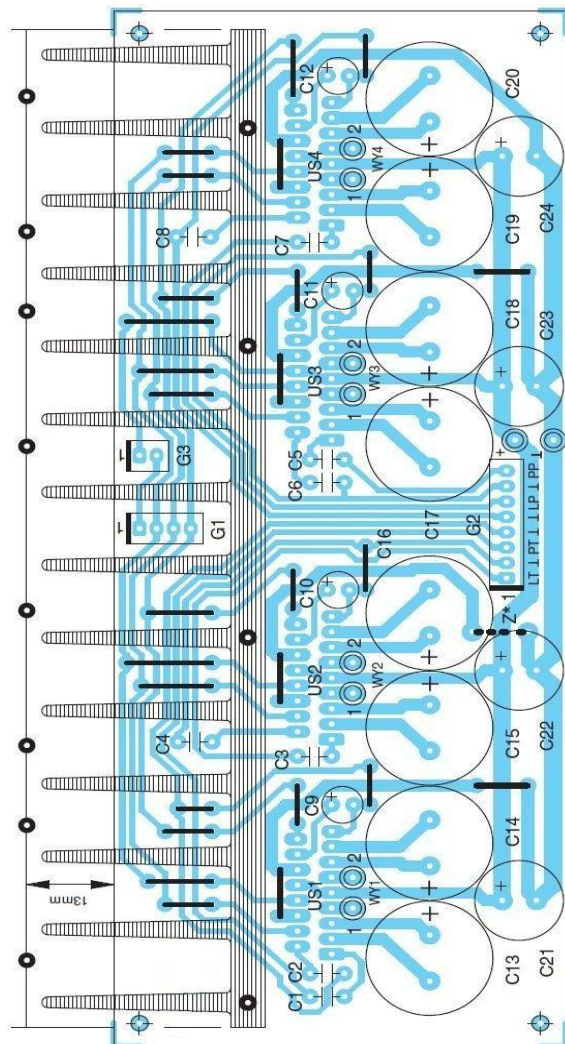
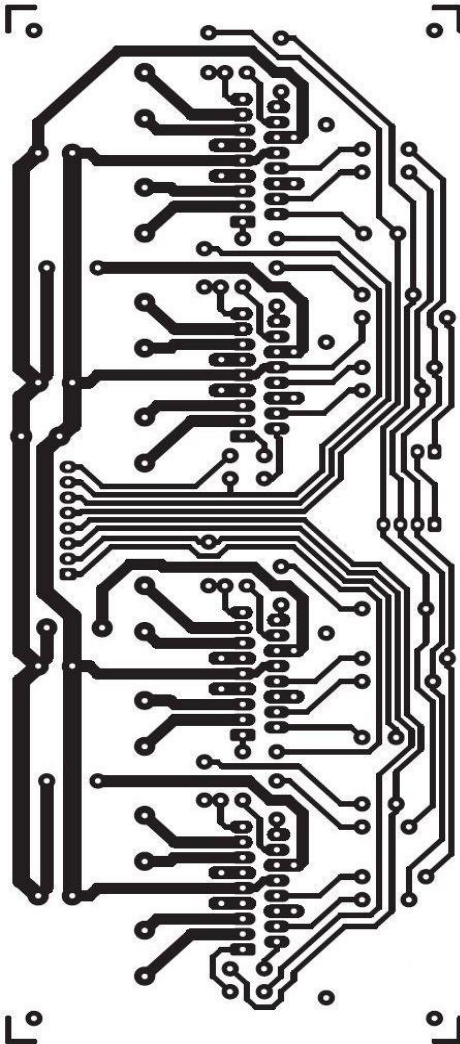
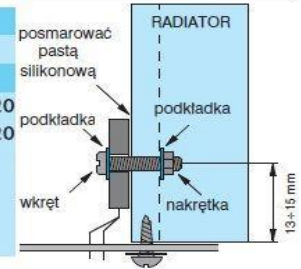


Półprzewodniki

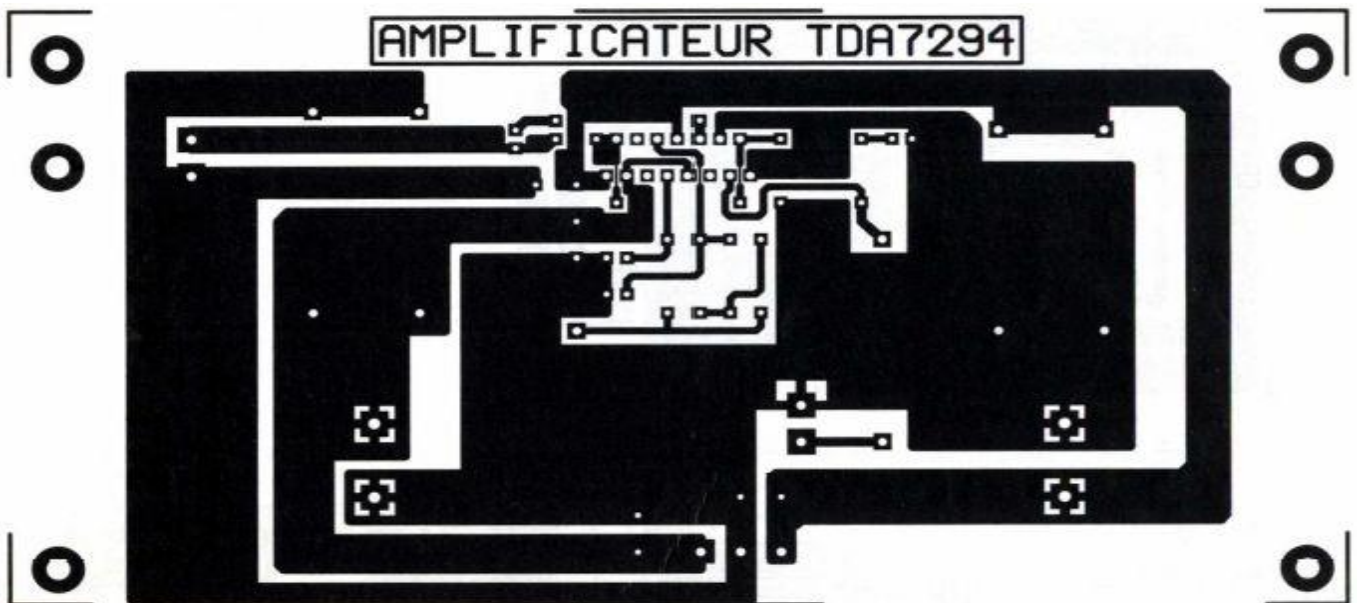
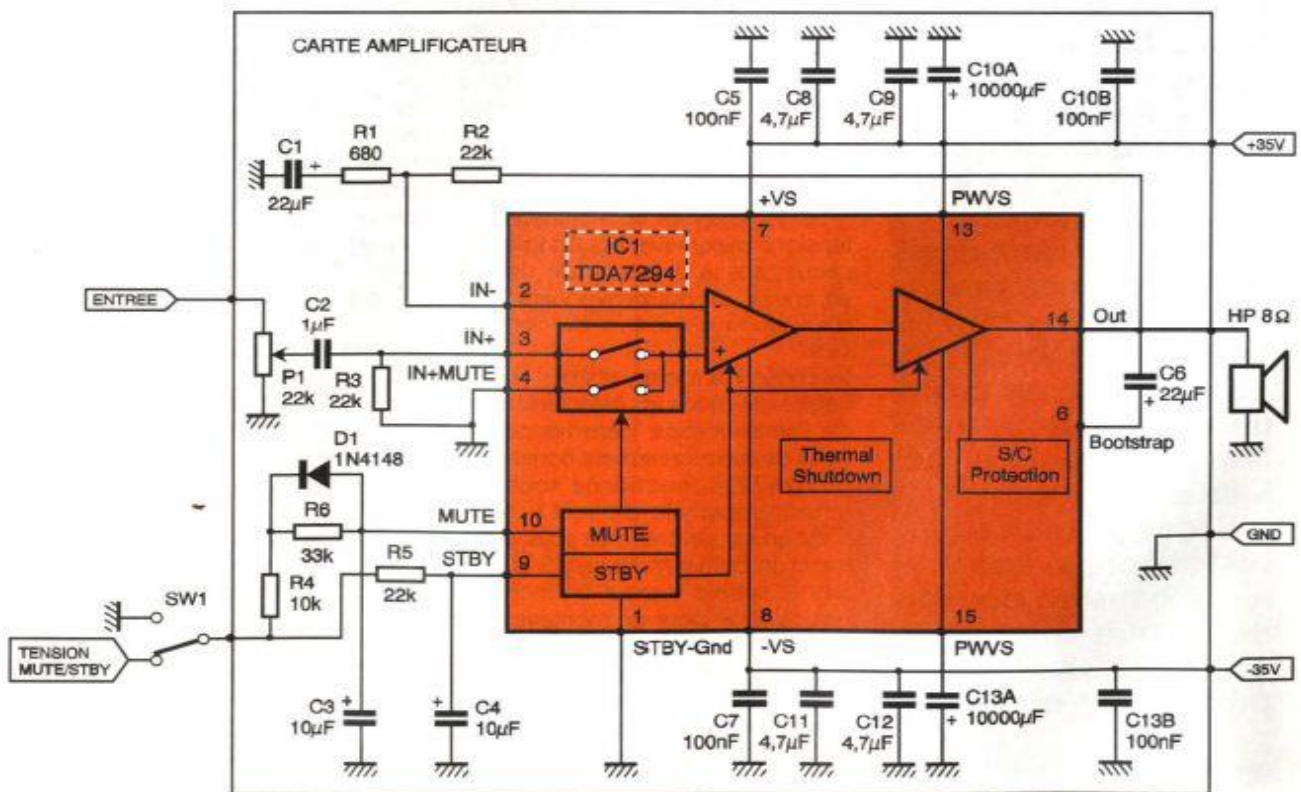
US1 ÷ US4 - TDA 1562Q

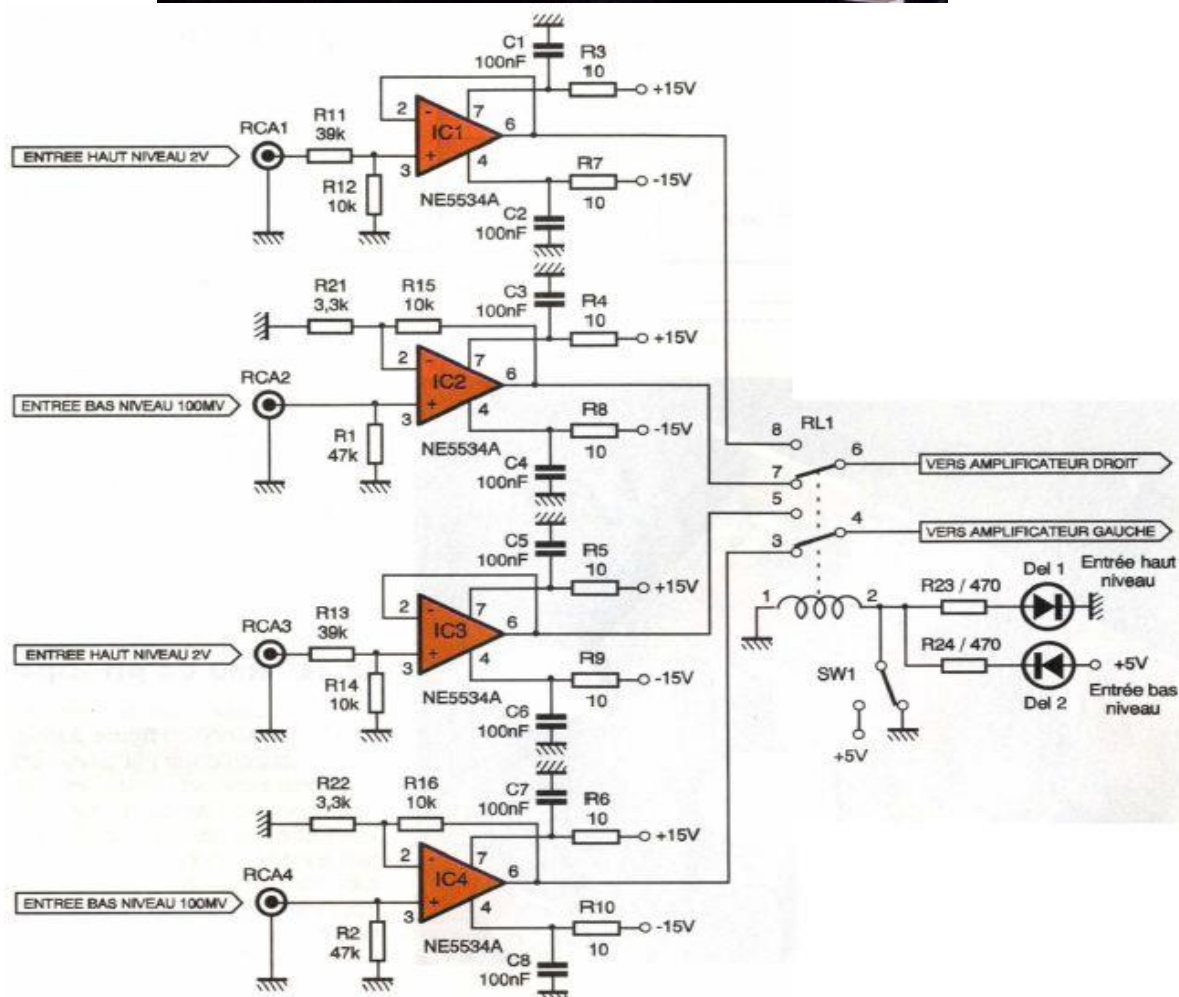
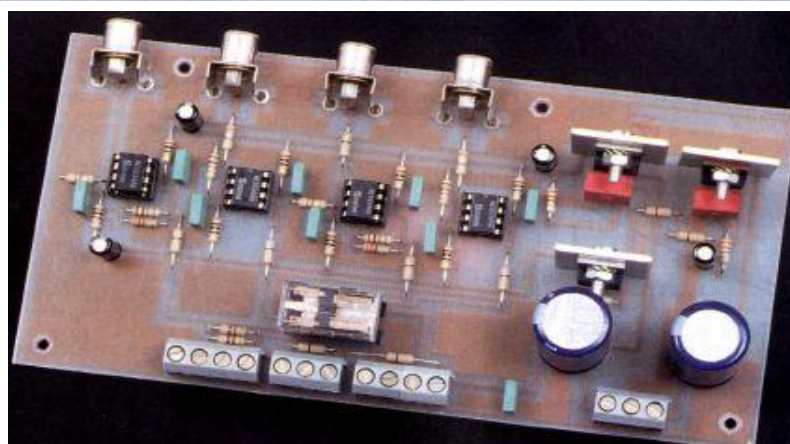
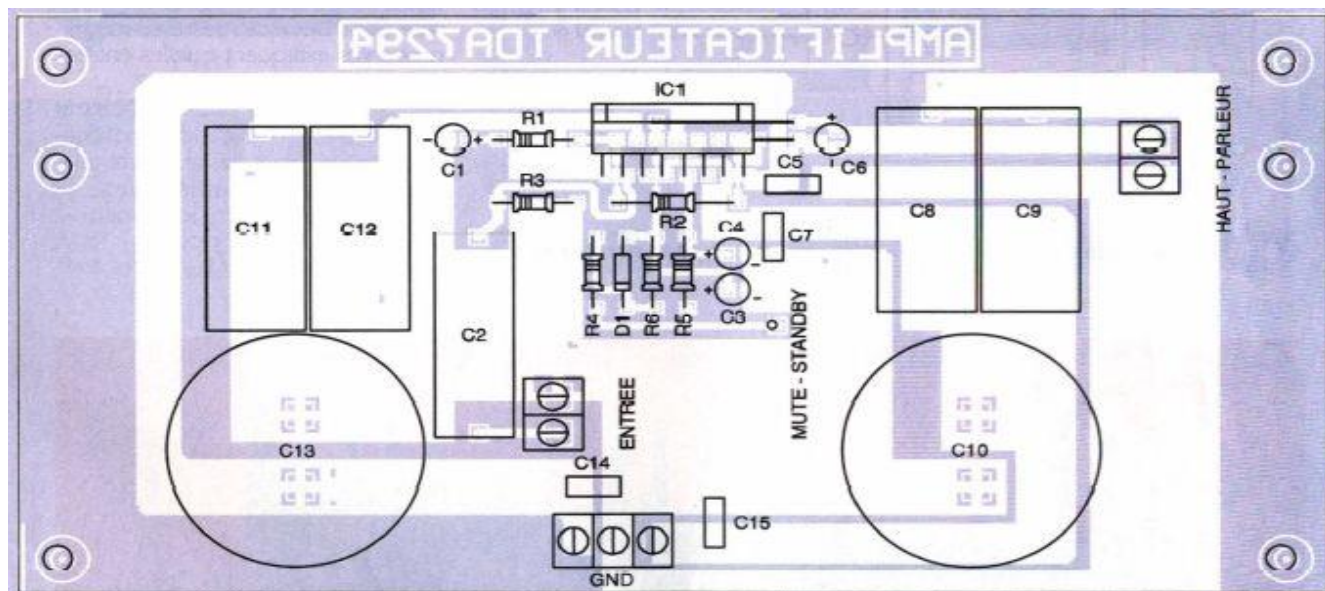
Kondensatory

C1 ÷ C8 - 100 nF/50 V MKSE-20
 C25 ÷ C28 - 100 nF/50 V MKSE-20
 patrz opis w teście
 C9 ÷ C12 - 10 µF/25 V
 C21 ÷ C24 - 2200 µF/16 V
 C13 ÷ C20 - 4700 µF/35 V

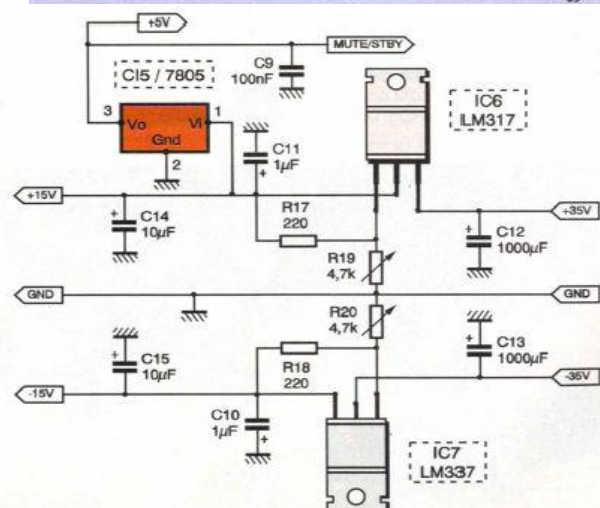
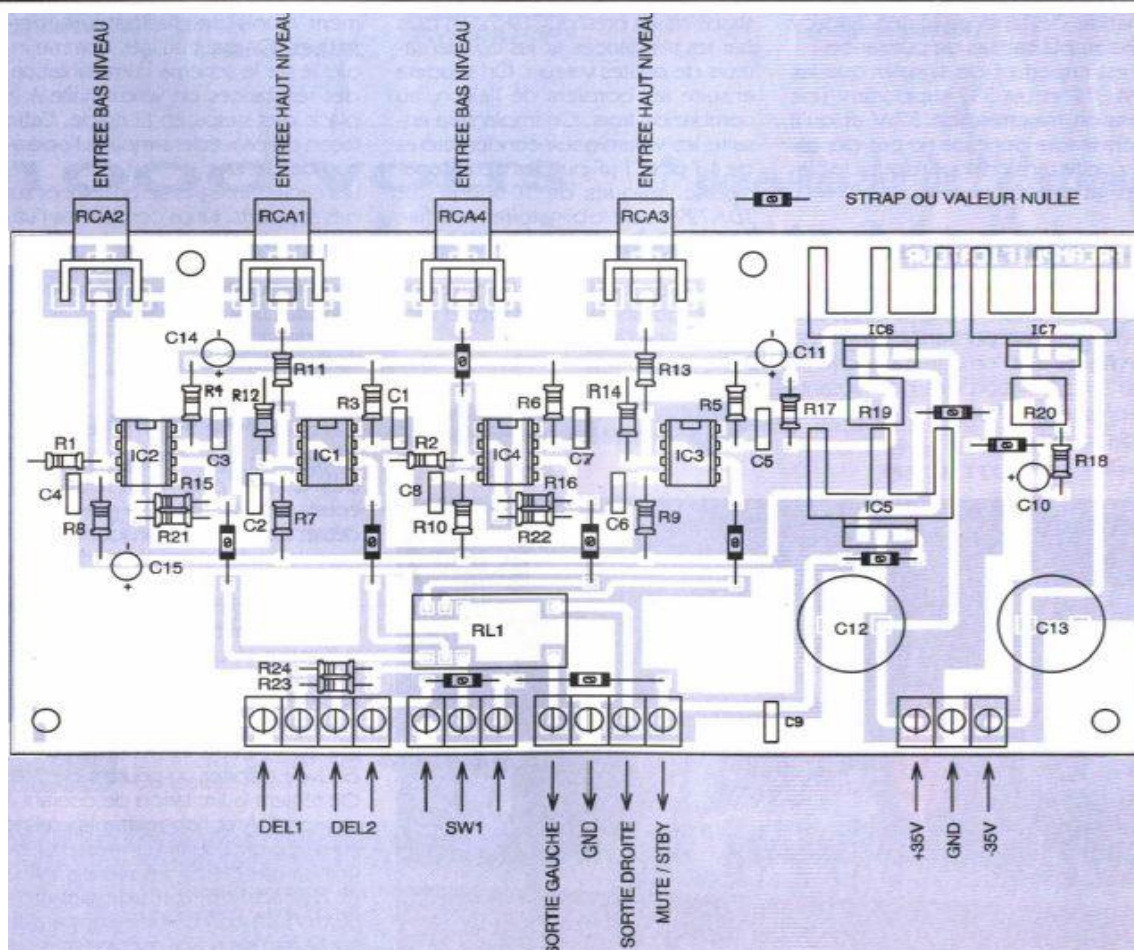
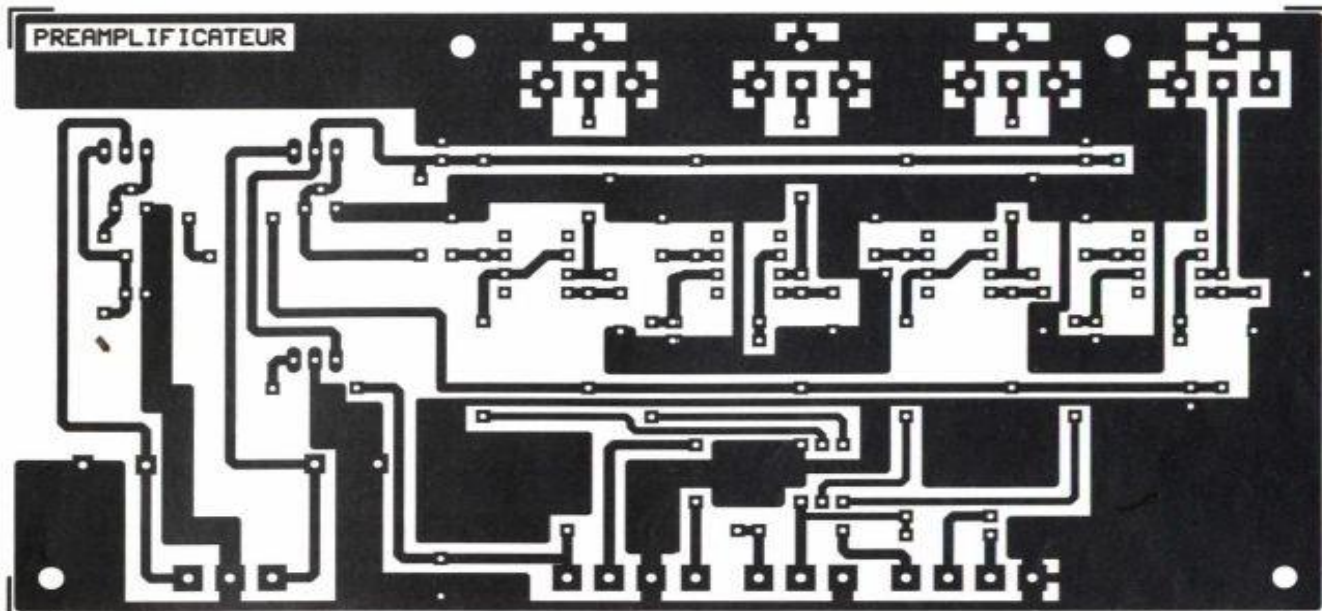


odyo ampli 70w 01-01 tda7294





PREAMPLIFICATEUR



NOMENCLATURE DES COMPOSANTS

● Amplis de puissance (X2 pour stéréo)

Résistances

R₁: 680 Ω (bleu, gris, marron)
R₂, R₃, R₅: 22 kΩ (rouge, rouge, orange)
R₄: 10 kΩ (marron, noir, orange)
R₆: 33 kΩ (orange, orange, orange)
P₁: 22 kΩ courbe B

Condensateurs

C₁, C₂: 22 µF 63 V
C₃: 1 µF non polarisé
C₄, C₅: 10 µF 25 V
C₆, C₇, C₁₀ (C₁₃₀), C₁₅ (C₁₀₈): 100 nF
C₈, C₉, C₁₁, C₁₂: 4,7 µF non polarisé
C_{10A}, C_{12A}: 10 000 µF 63 V radial

Semiconducteurs

D₁: 1N4148

Circuit intégré

IC₁: TDA7294V

Divers

1 radiateur peigne
2 borniers à vis à deux points
1 bornier à vis à trois points
1 cosse à souder

● Platine alimentation

Condensateurs

C₁ à C₄: 100 nF 100 V

Semiconducteurs

D₁: pont redresseur 100 V, 10 A (KBPC3502)

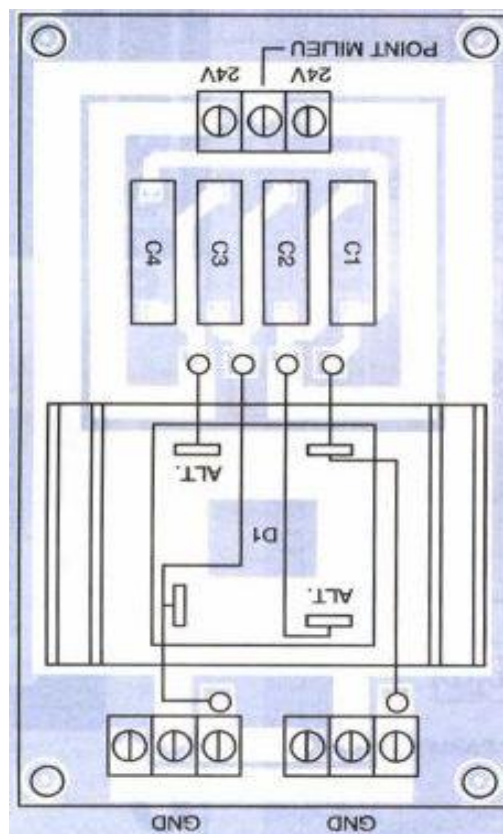
Divers

3 borniers à vis à trois points
6 cosse à souder

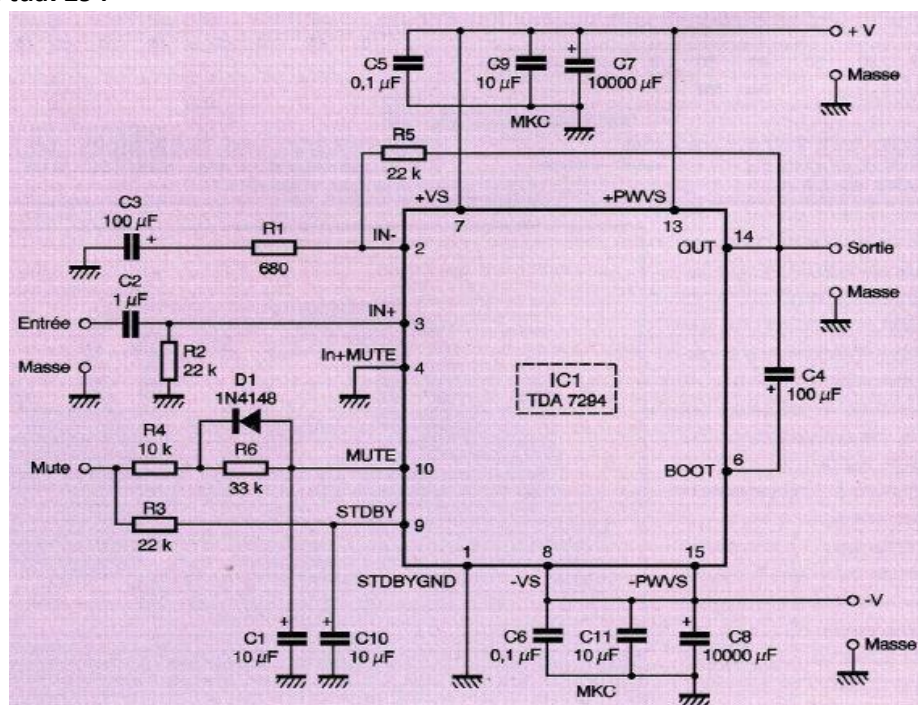
● Carte préamplificateur

Résistances

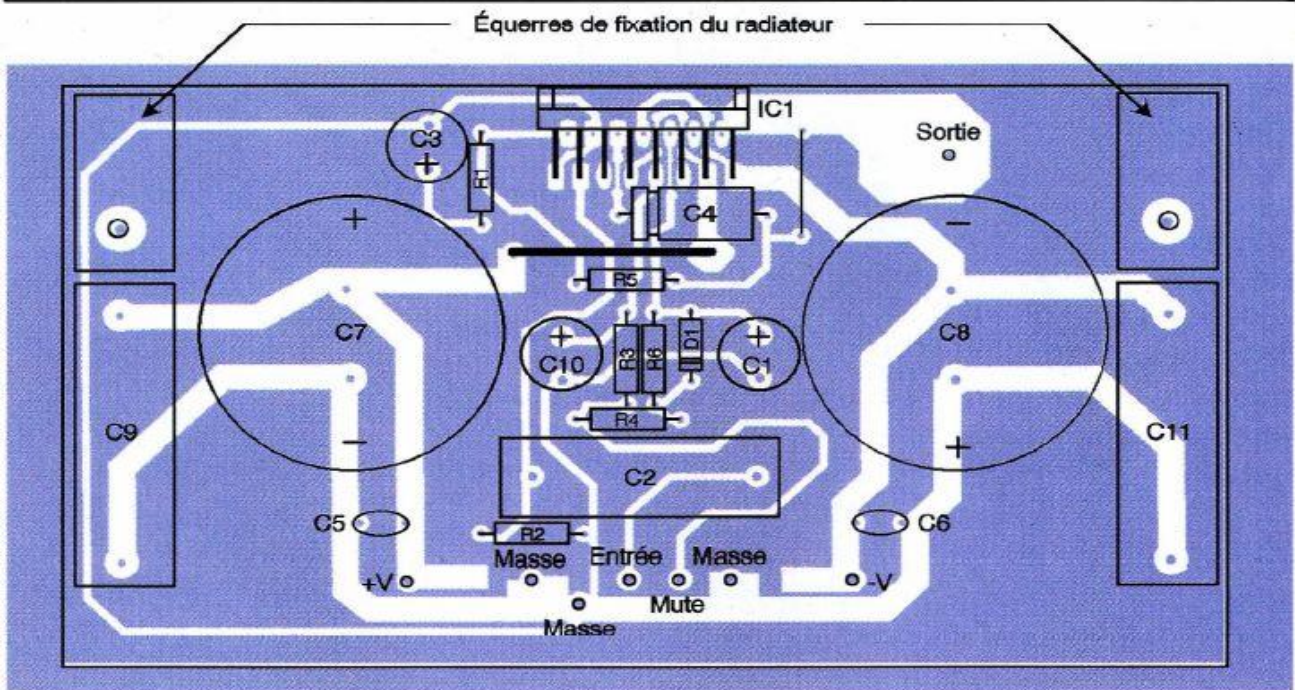
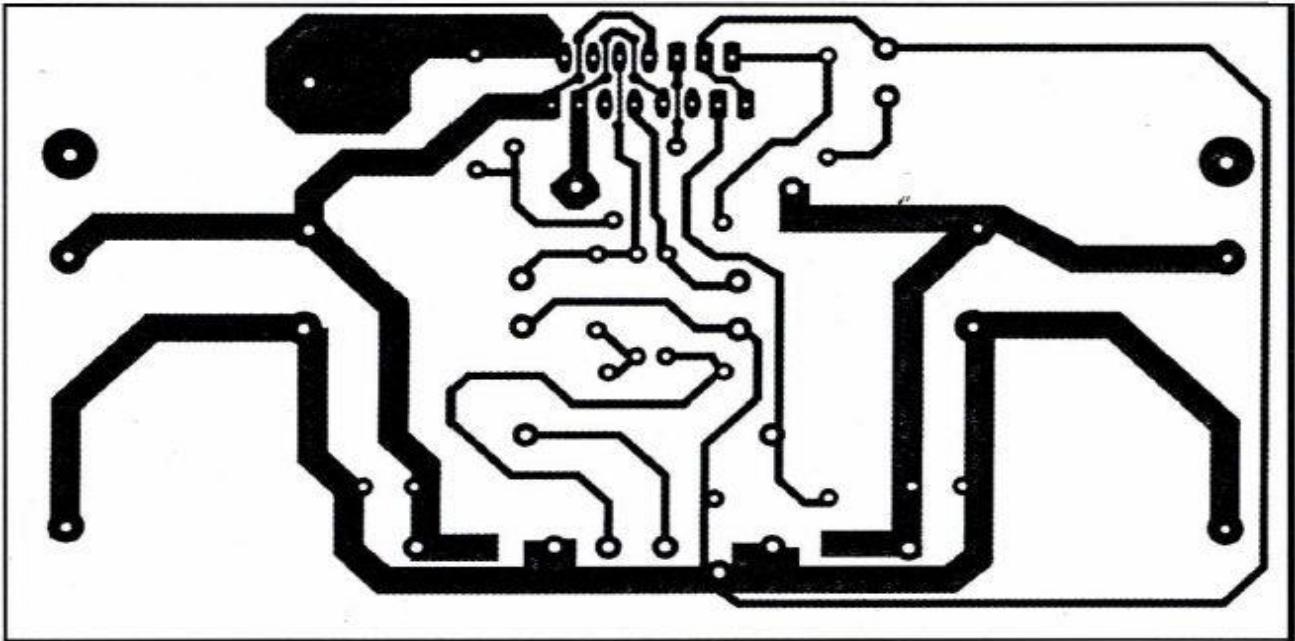
R₁, R₂: 47 kΩ (jaune, violet, orange)
R₃ à R₁₀: 10 Ω (marron, noir, noir)
R₁₁, R₁₃: 39 kΩ (orange, blanc, orange)
R₁₂, R₁₄, R₁₅, R₁₆: 10 kΩ (marron, noir, orange)
R₁₇, R₁₈: 220 Ω (rouge, rouge, marron)



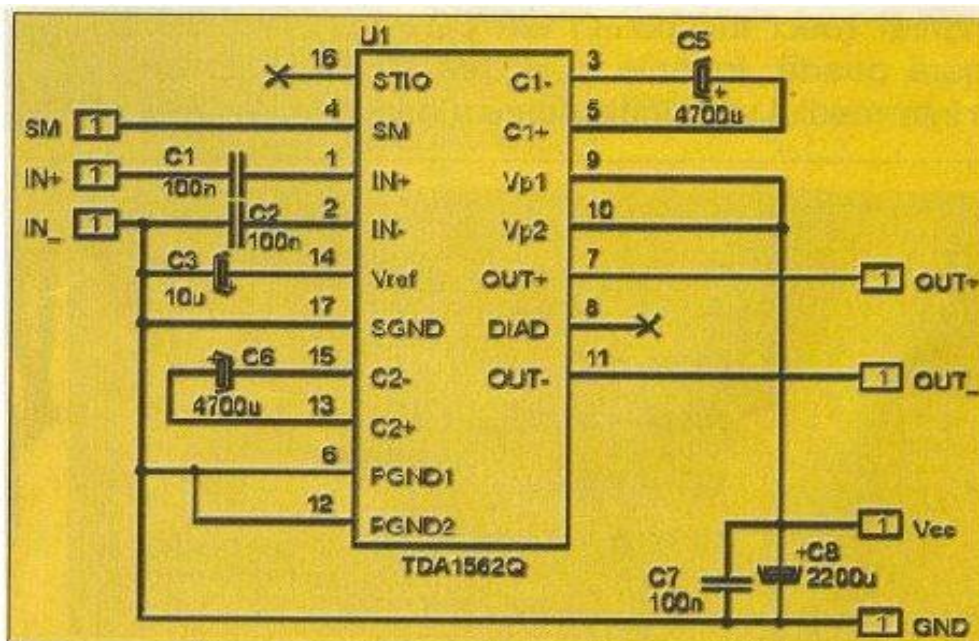
de 70 Watts efficaces

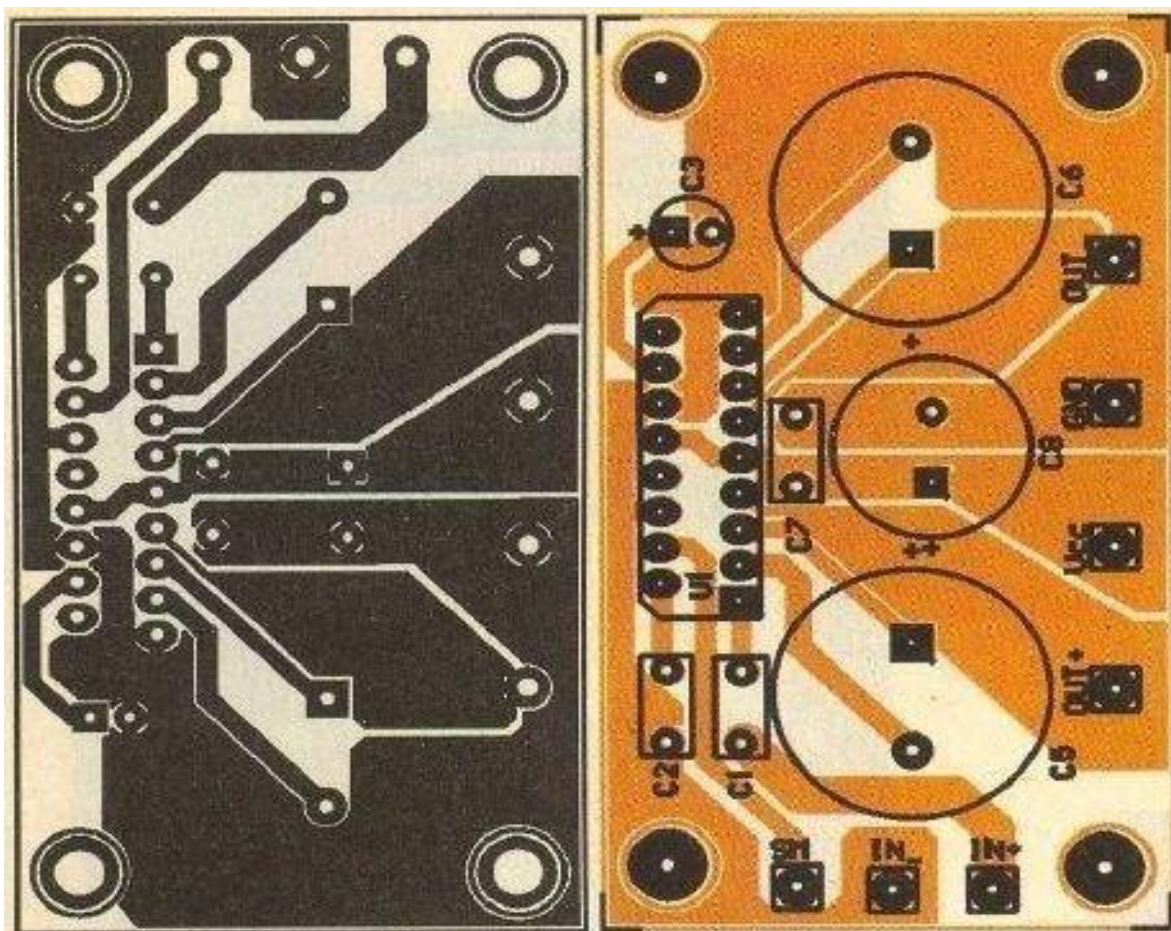


C₂ : 1 μ F/250V Mylar

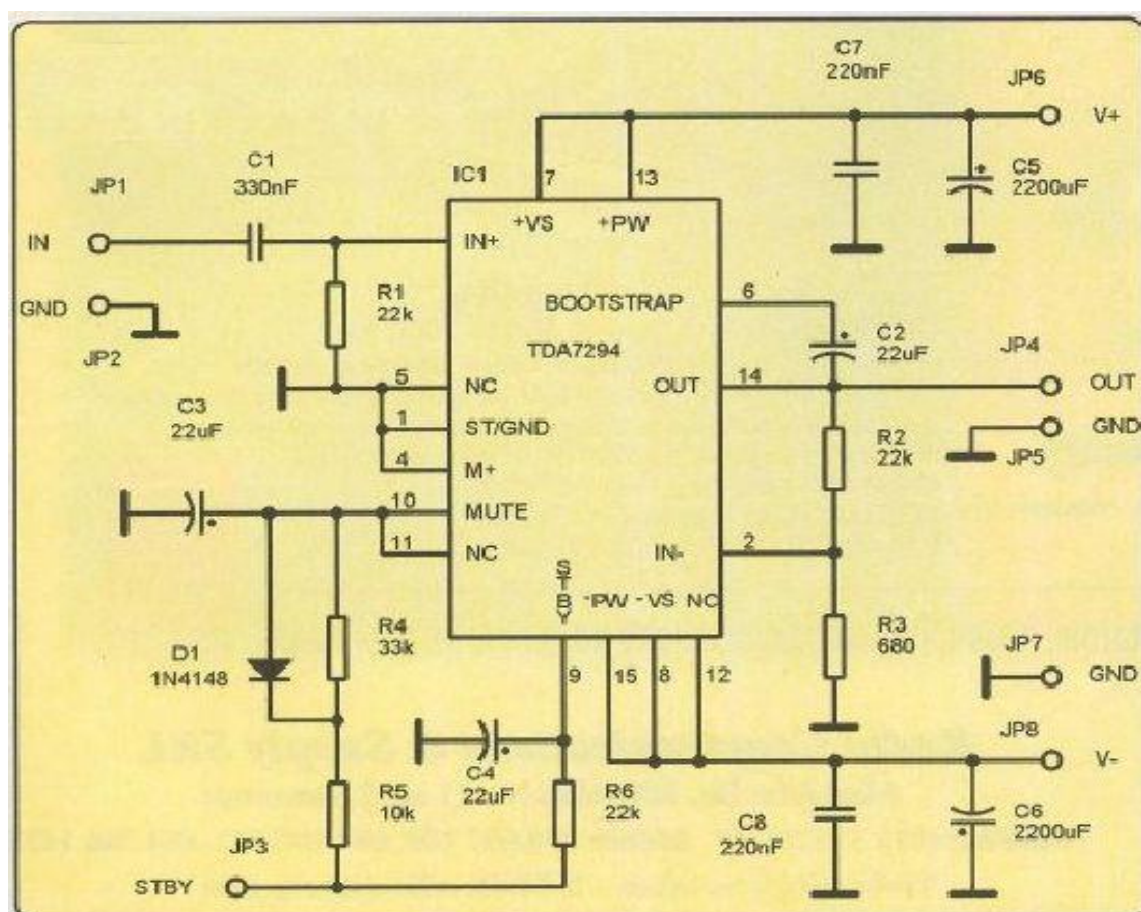


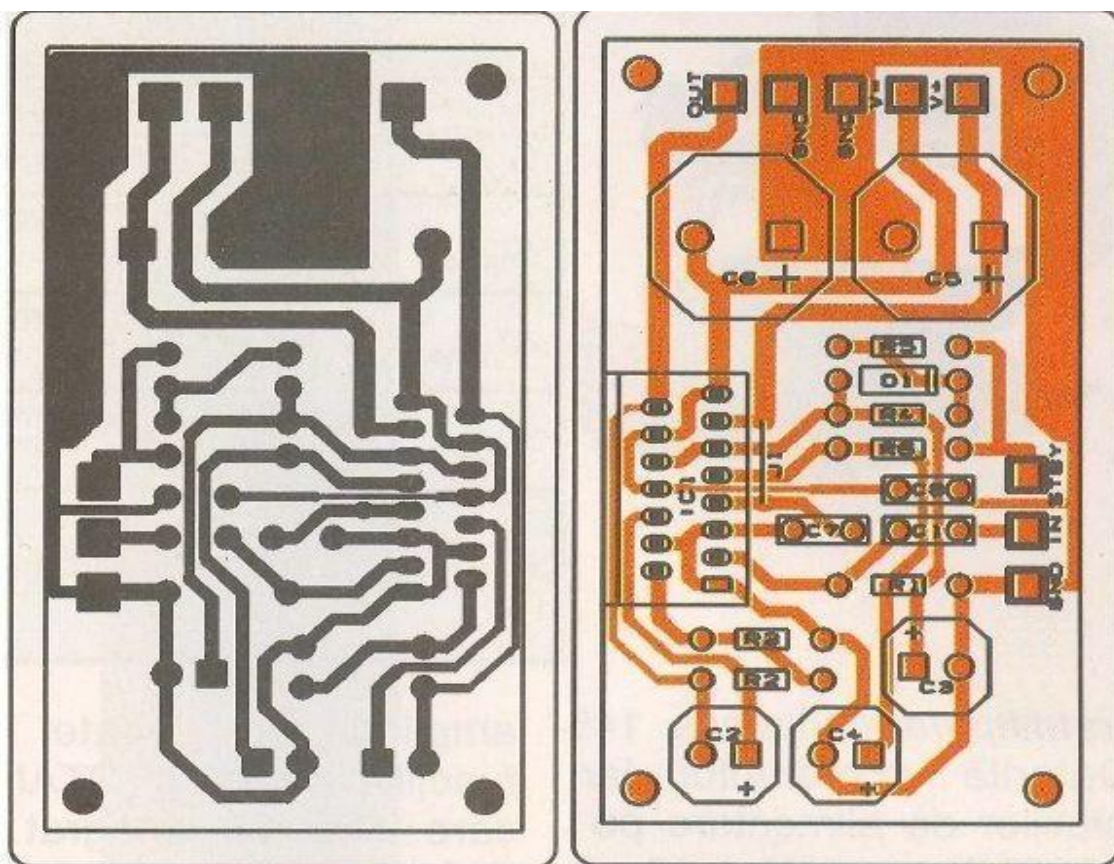
odyo ampli 70w 03-01 tda1562q



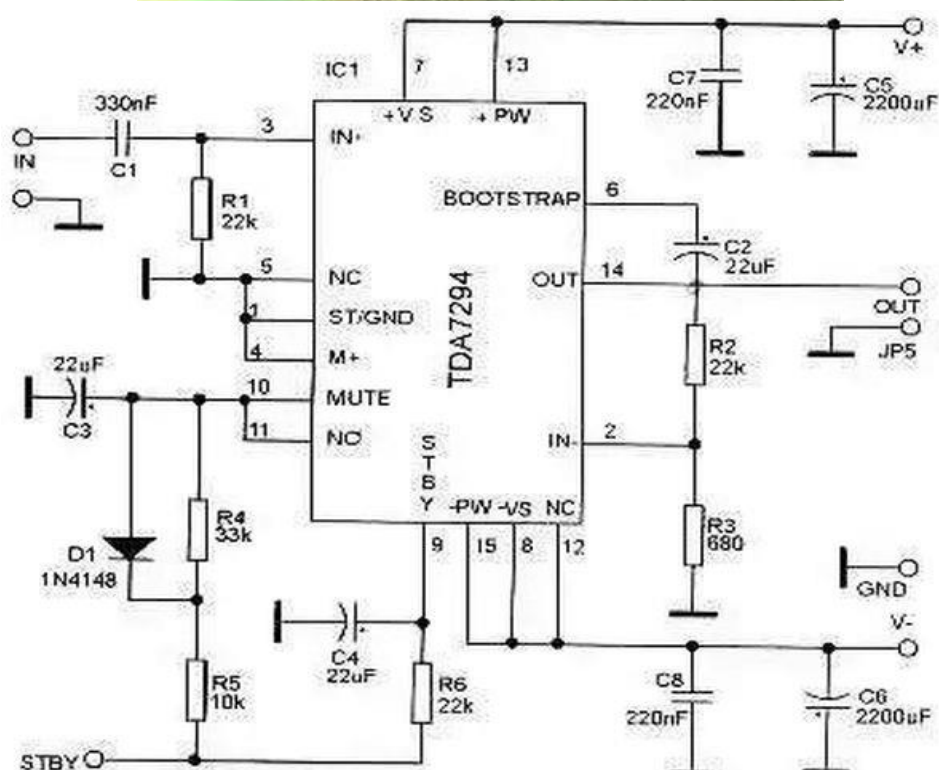


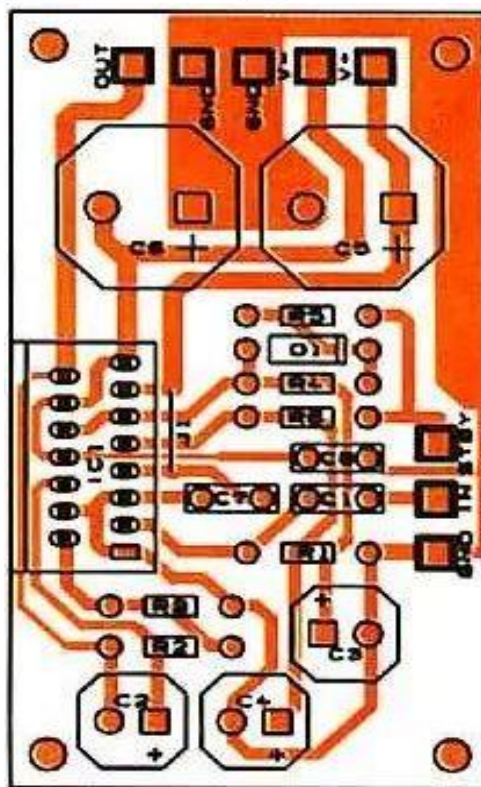
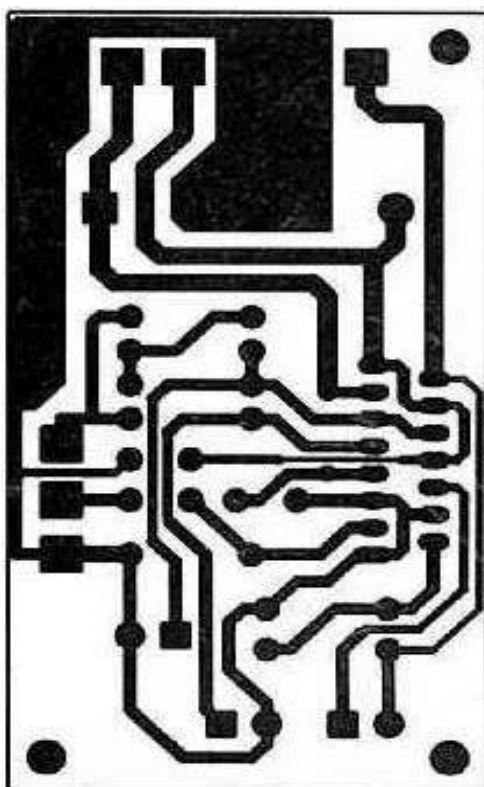
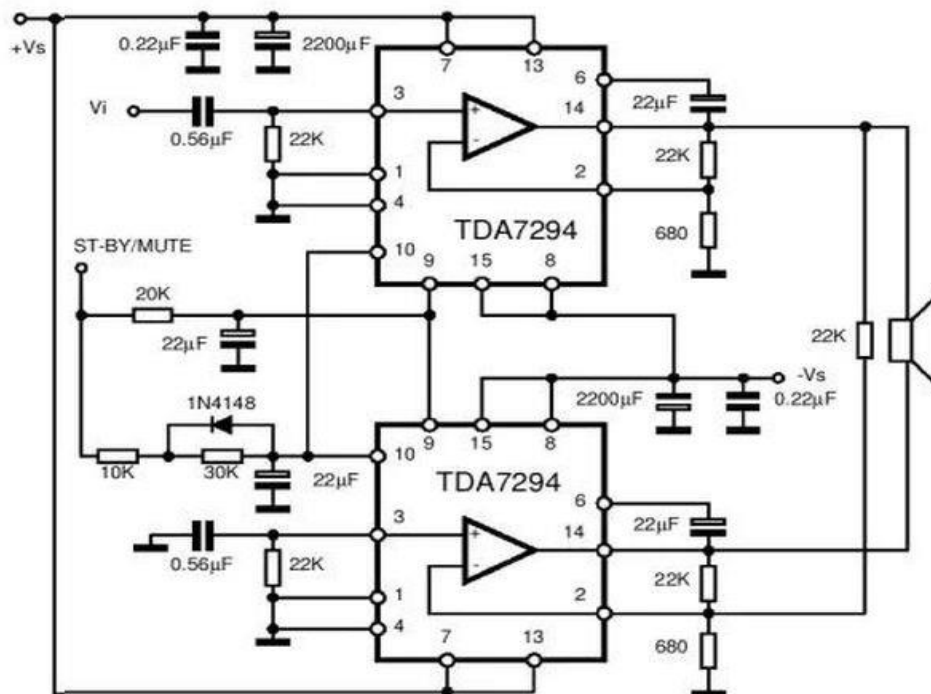
odyo ampli 80w 01-01 tda7294





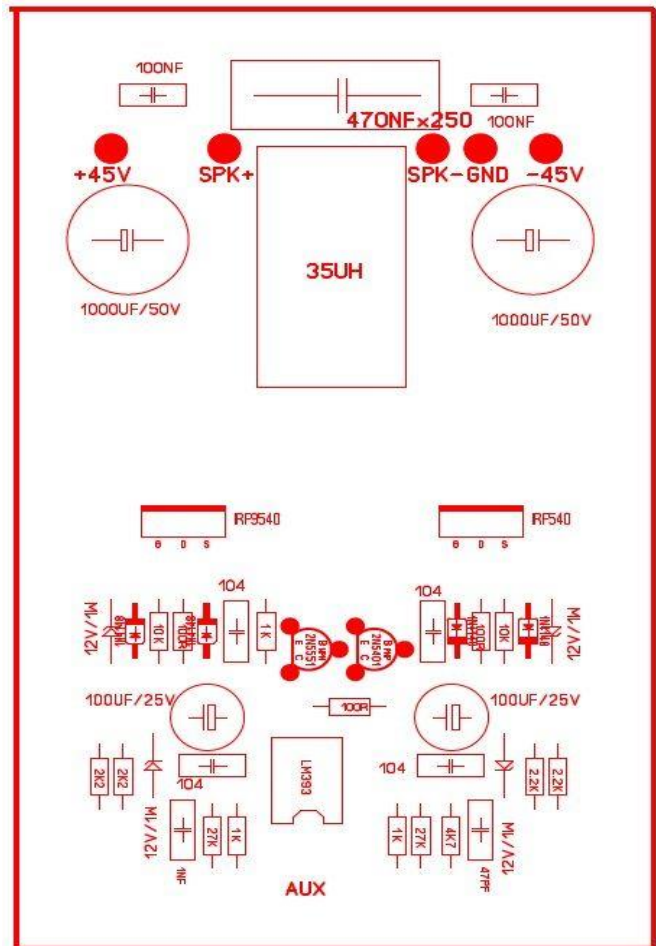
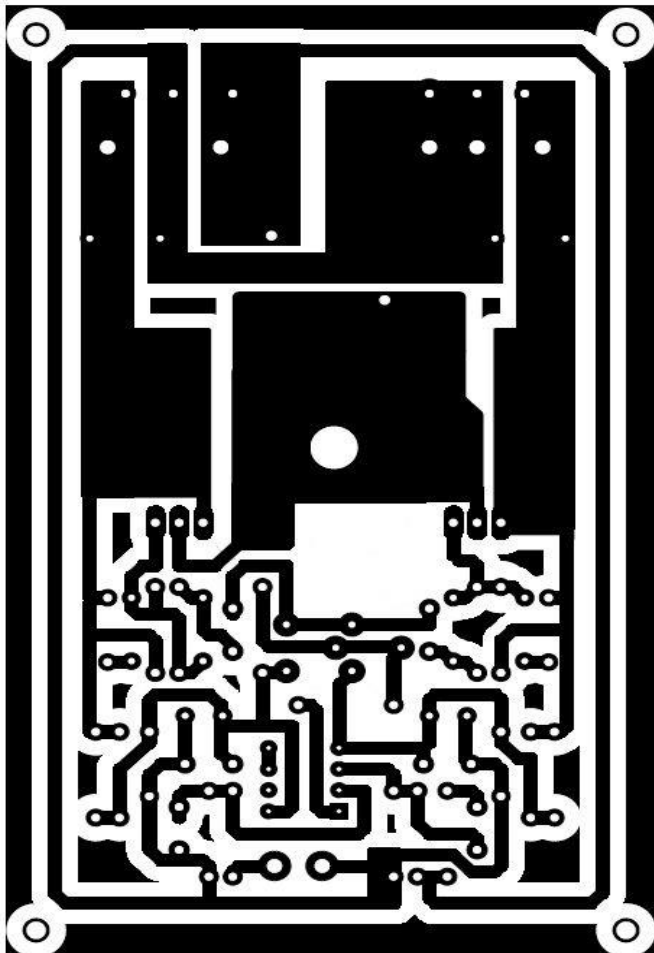
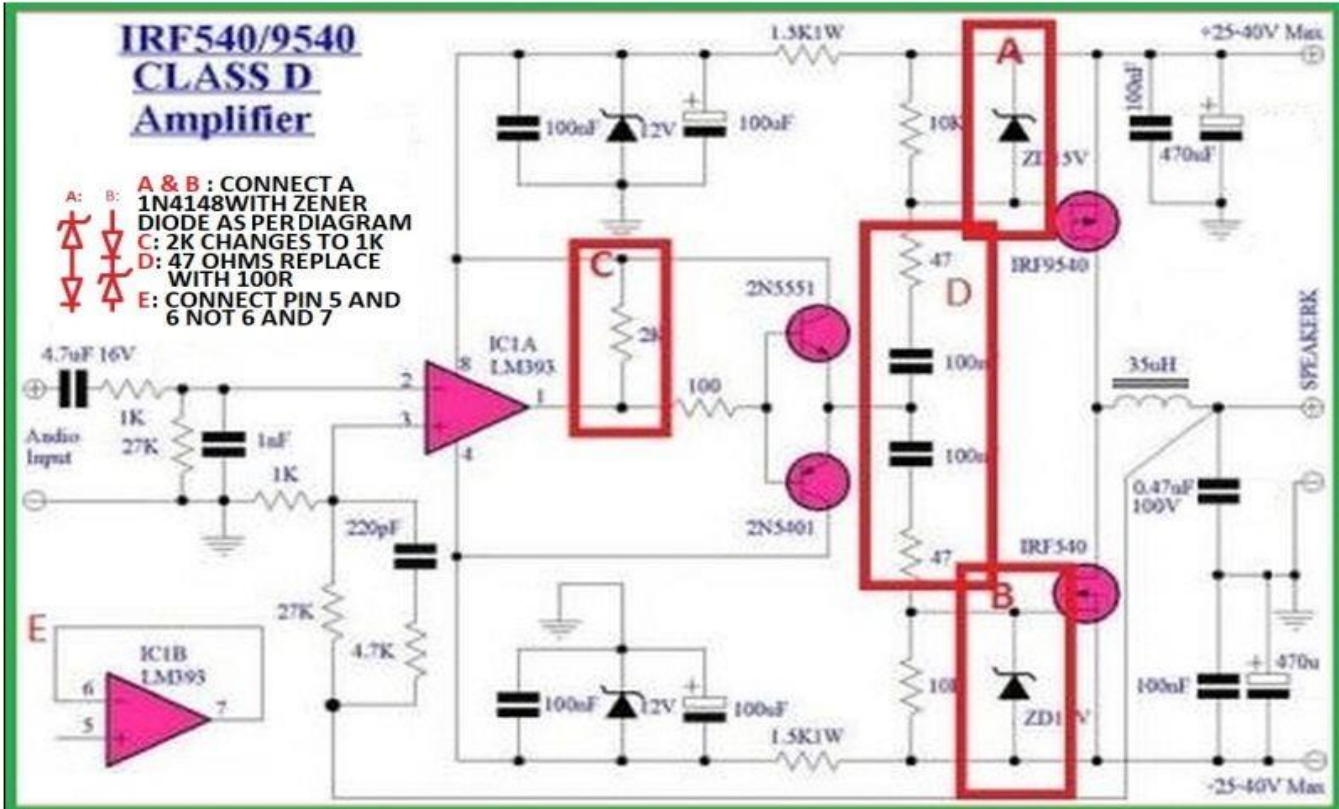
odyo ampli 100w 01-01 tda7294

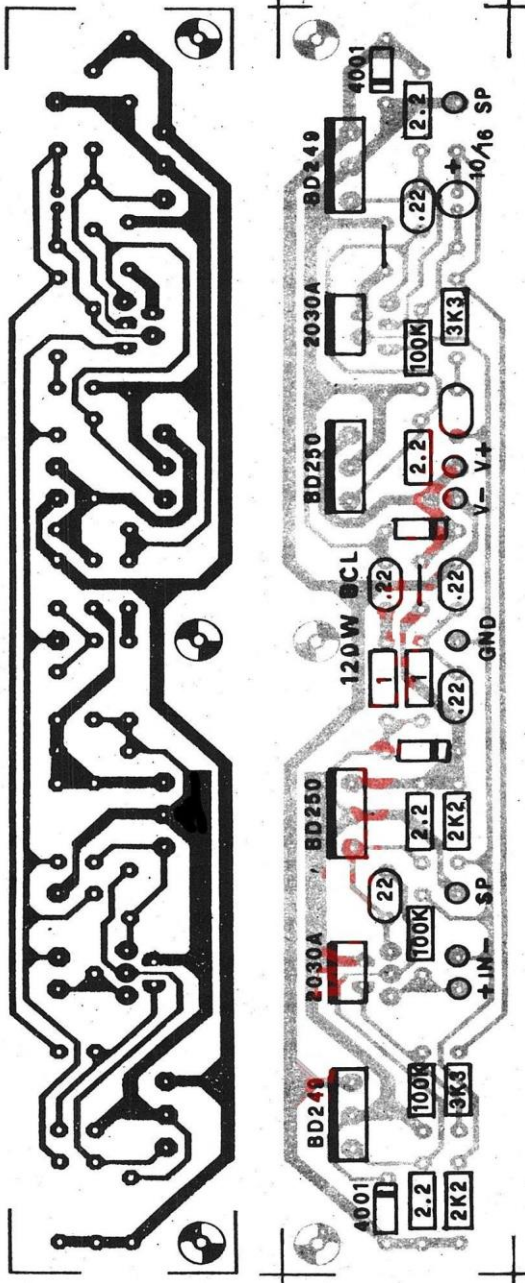
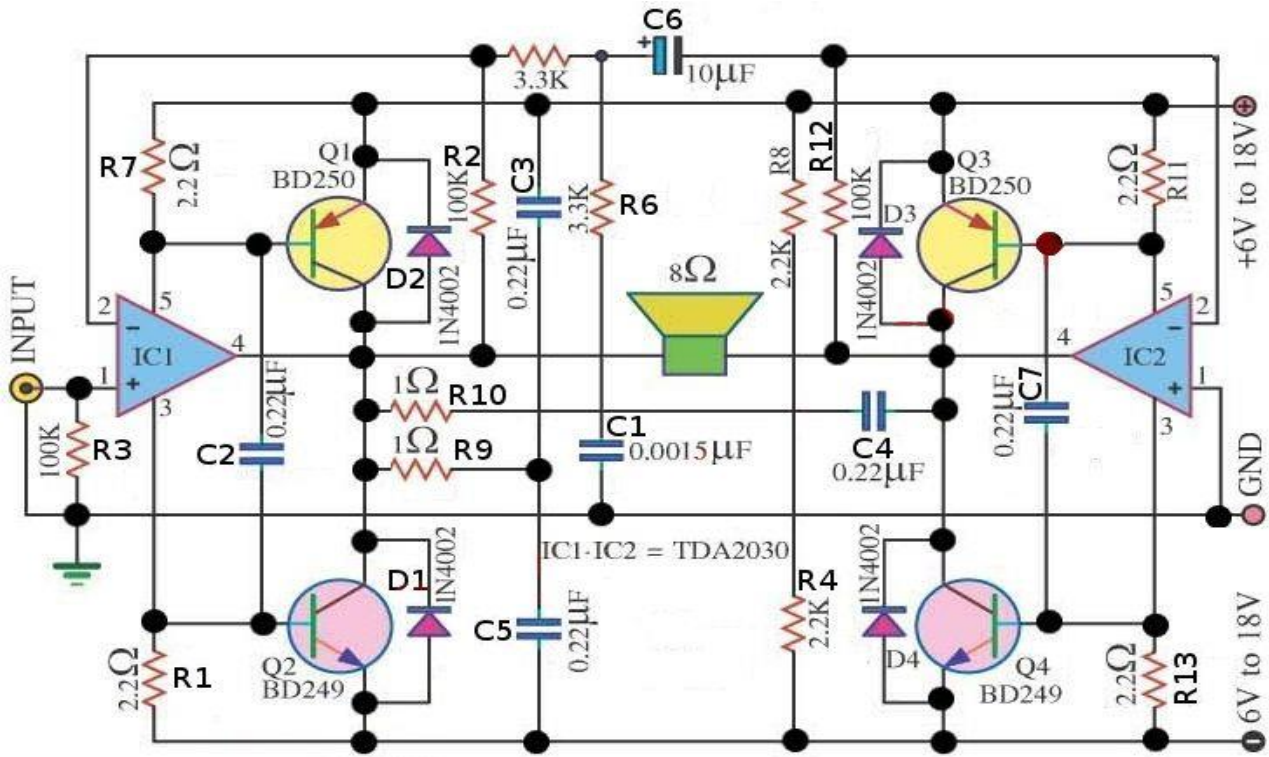




IRF540/9540 **CLASS D** **Amplifier**

- A: 1N4148 WITH ZENER DIODE AS PER DIAGRAM
B: 1N4148 WITH ZENER DIODE AS PER DIAGRAM
C: 2K OHMS REPLACE WITH 100R
D: 47 OHMS REPLACE WITH 100R
E: CONNECT PIN 5 AND 6 NOT 6 AND 7

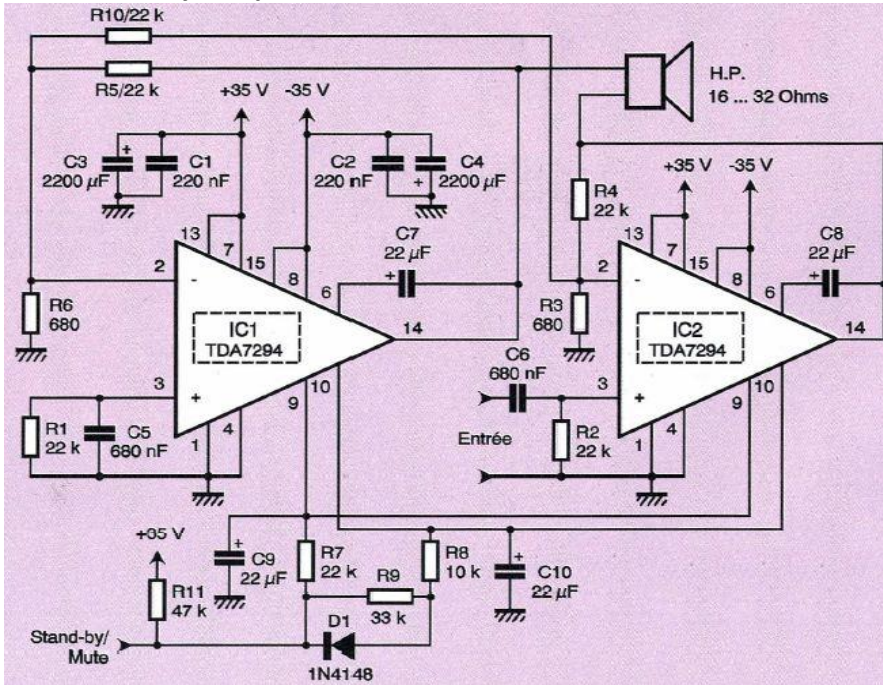




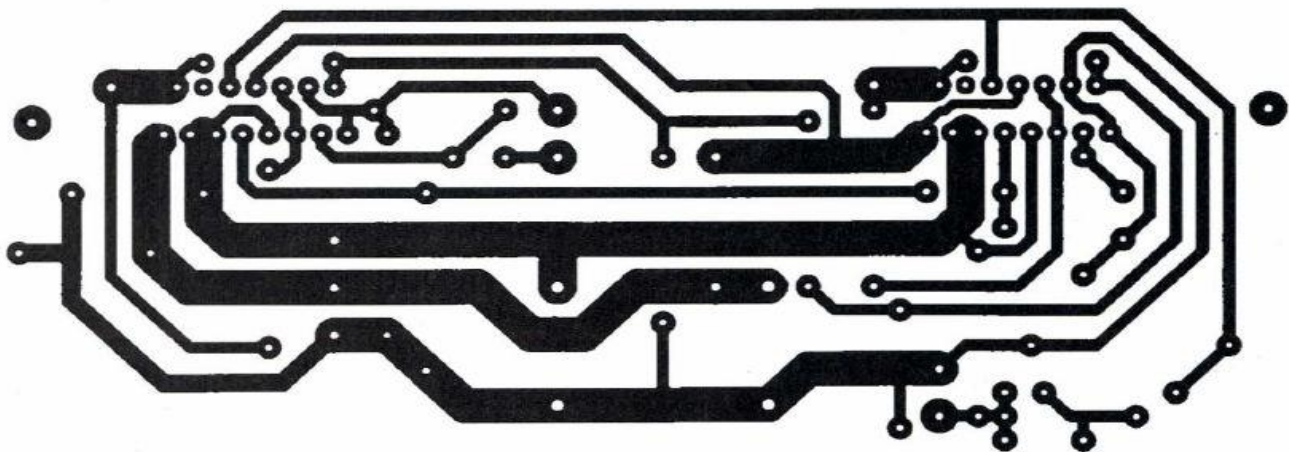
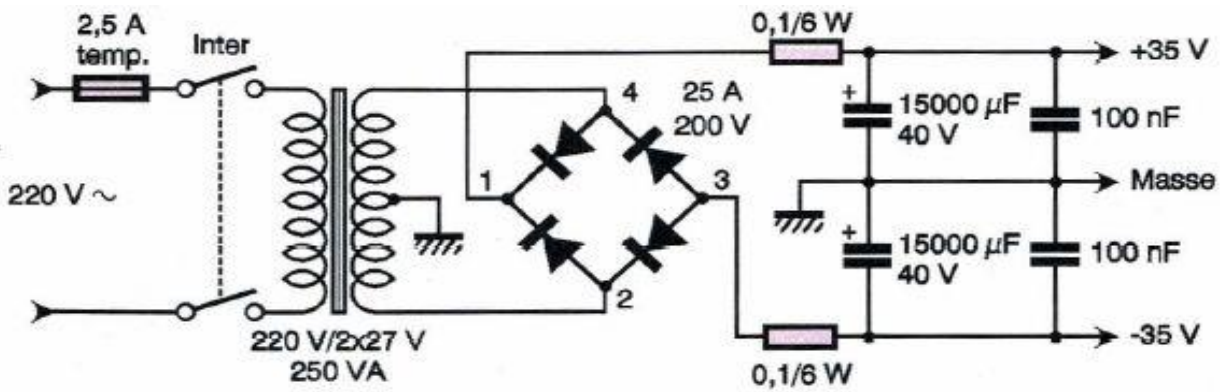
Detail of circuits

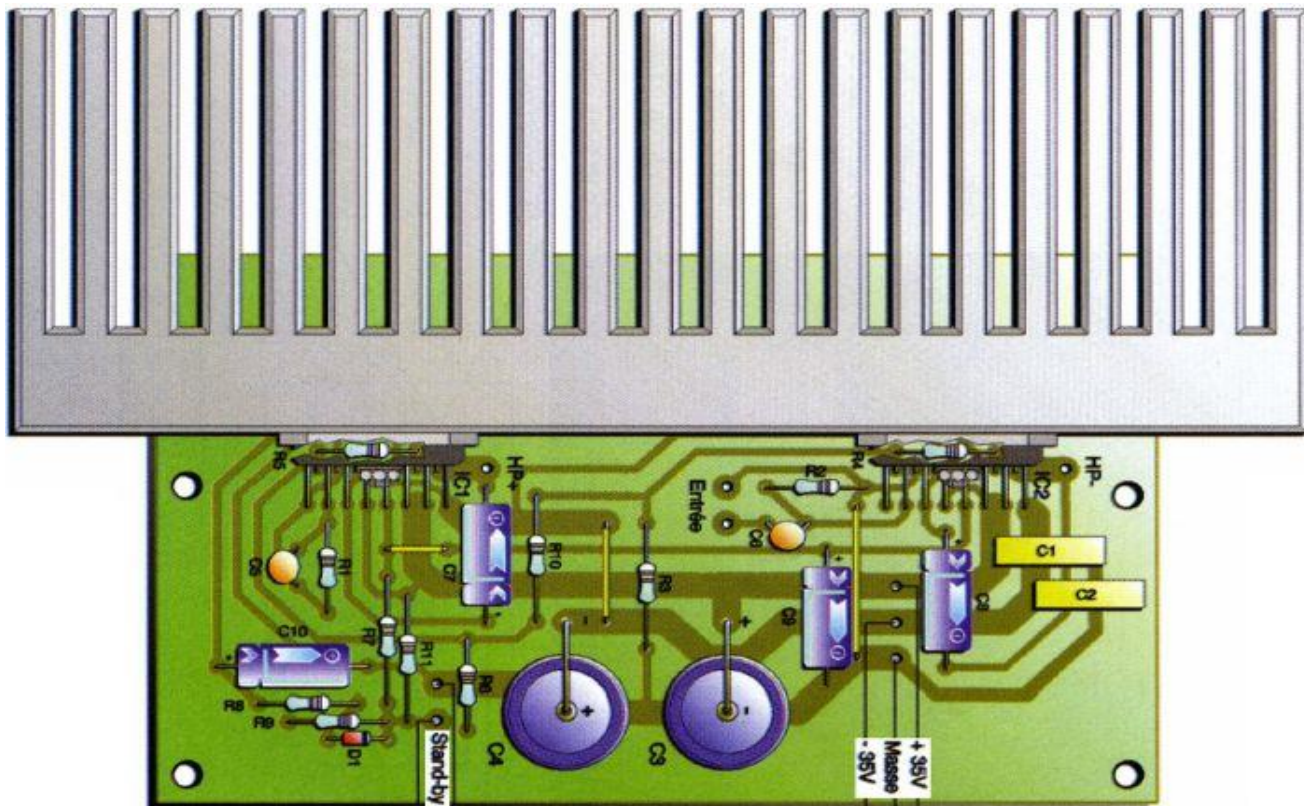
Q1,Q3 _____ BD250 _____ PNP POWER TRANSISTORS(25A,125W)
 Q2,Q4 _____ BD249 _____ NPN POWER TRANSISTORS(25A,125W)
 D1,D2,D3,D4 _____ 1N4002 _____ Diode 1A 100V
 IC1,IC2 _____ TDA2030A _____ 18W HI-FI AMPLIFIER AND 35W DRIVER
 R1,R7,R11,R13 _____ 2.2 ohm _____ Resistors 1/2W
 R2,R3,R12 _____ 100K _____ Resistors 1/4W
 R4,R8 _____ 2.2K _____ Resistors 1/4W
 R5,R6 _____ 3.3K _____ Resistors 1/4W
 R9,R10 _____ 1 ohm _____ Resistors 1/2W
 C1 _____ 0.0015uF 50V _____ Polyester Capacitor
 C2,C3,C4,C5,C7 _____ 0.022uF 50V _____ Polyester Capacitor
 C6 _____ 10uF 16V _____ Electrolytic Capacitors

odyo ampli 150w 01-01 tda7294



R₁, R₂, R₄, R₅, R₇, R₁₀ : 22 kΩ couche métal 1/2W 5%
R₃, R₆ : 680 Ω couche métal 1/2W 5%
R₈ : 10 kΩ couche métal 1/2W 5%
R₉ : 33 kΩ couche métal 1/2W 5%
R₁₁ : 47 kΩ couche métal 1/2W 5%
C₁, C₂ : 220 nF/63V LCC
C₃, C₄ : 2 200 µF/40V électrolytiques axiaux
C₅, C₆ : 680 nF/63V LCC
C₇ à C₁₀ : 22 µF/63V axiaux
D₁ : diode 1N4148
IC₁, IC₂ : TDA7294V
2 straps
9 picots pour circuit imprimé
Radiateur peigne 0,7°C/W
2 kits d'isolation pour boîtier multiwatt

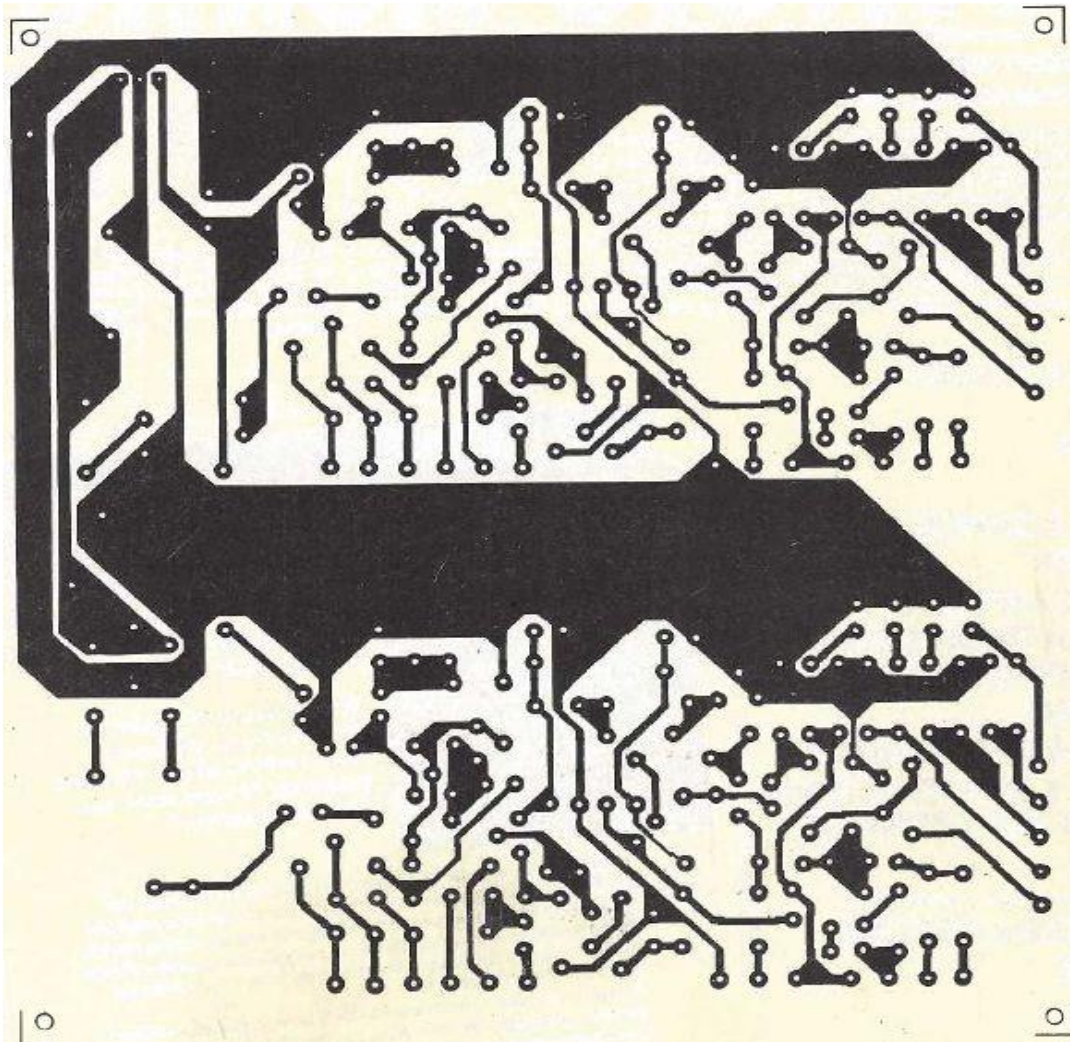
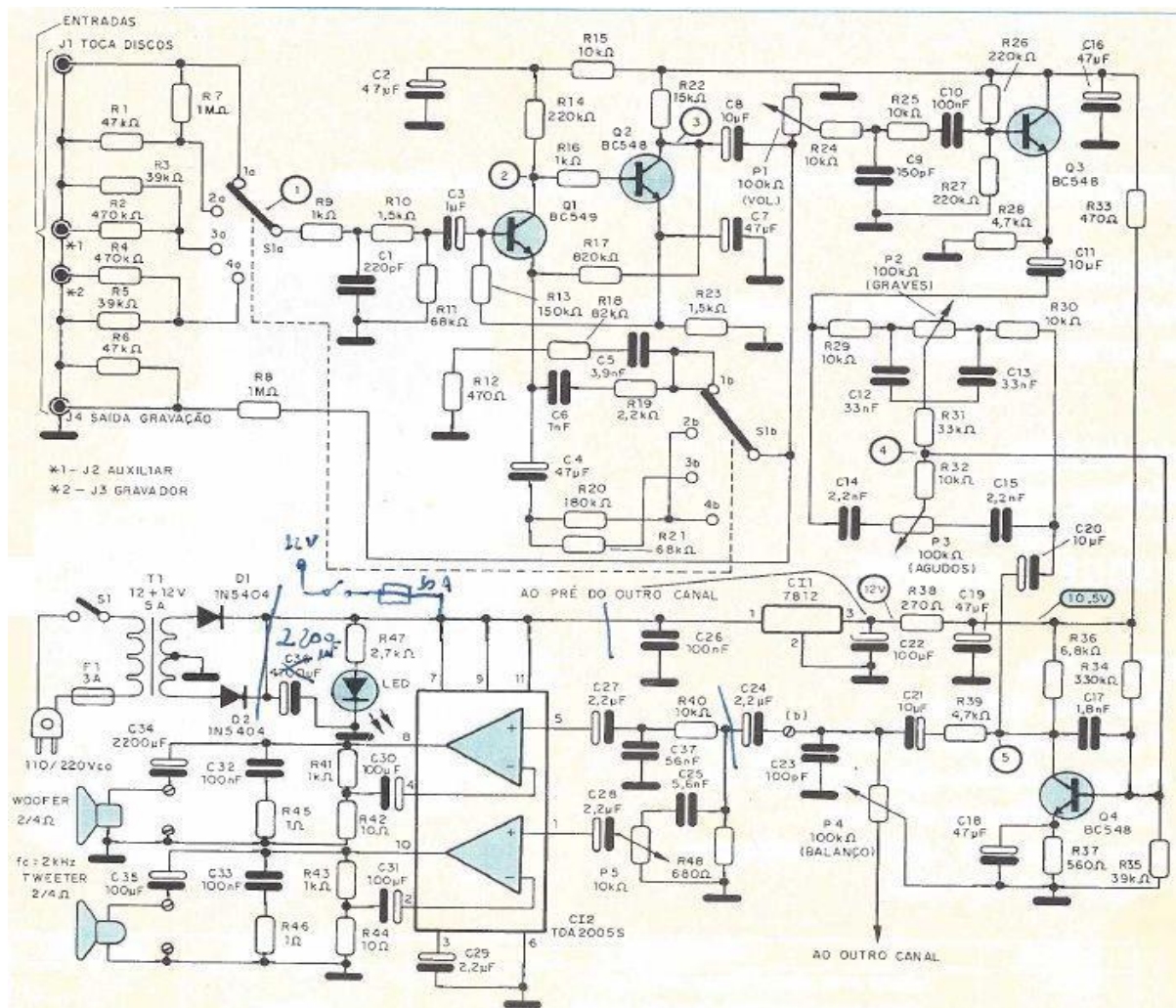


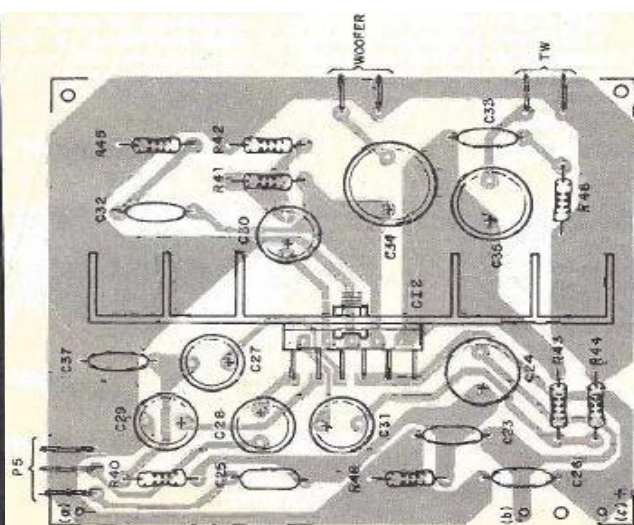
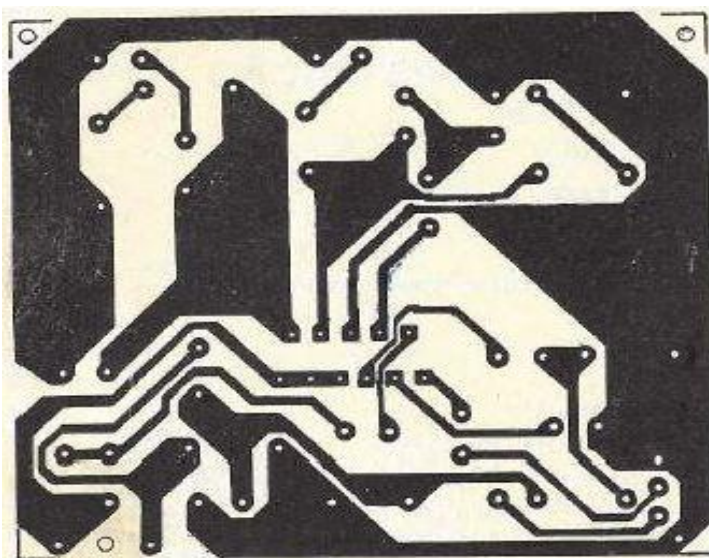
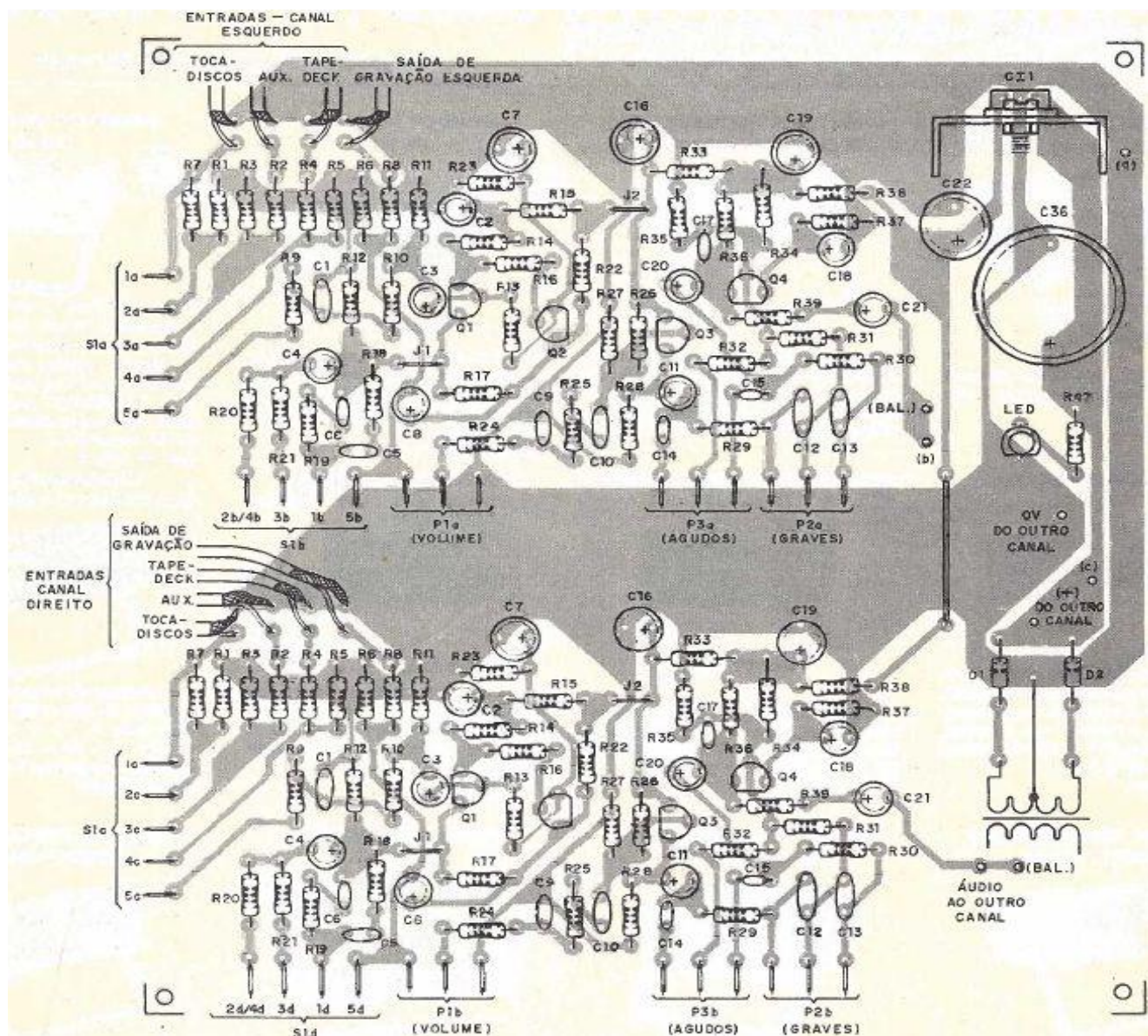


odyo ampli 160w 01-01 tda1514

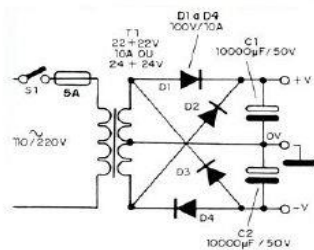
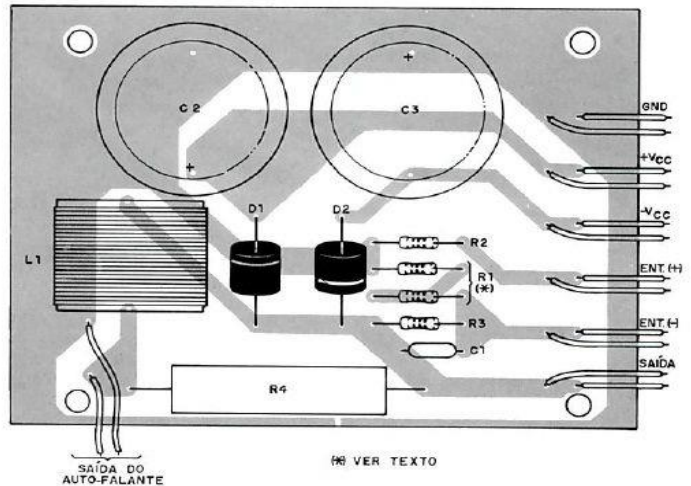
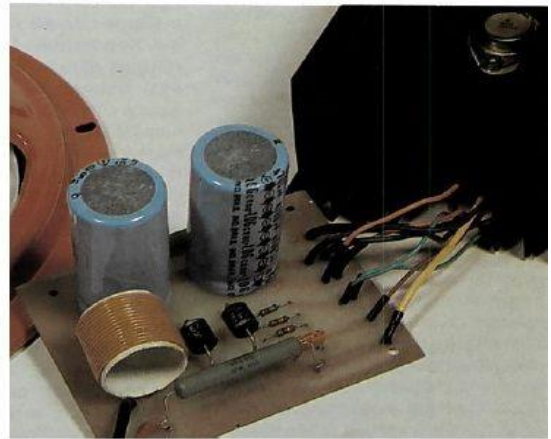
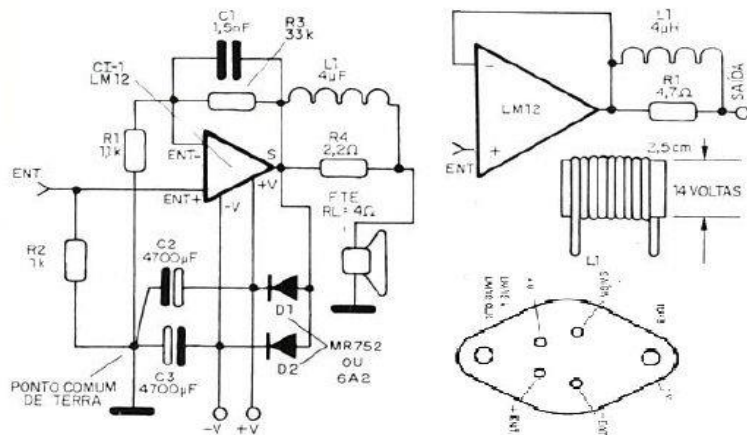


1 canal + fonte de alimentação			
(O material que não é da fonte - que inclui C11, D1, D2, C36, R47, LED e transformador - deve ser duplicado na versão estéreo).			
Semicondutores:			
C11 - 7812 - circuito integrado regulador de tensão	R20 - 180 kΩ	C9 - 150 pF - cerâmico	16 V
C12 - TDA2005S (Não serve o M) - circuito integrado amplificador Philips-SID	R22 - 15 kΩ	C10, C28, C32, C33 - 100 nF - poliéster	
D1, D2 - 1N5404 - diodos de silício	R28, R39 - 4,7 kΩ	C12, C13 - 33 nF - cerâmicos ou poliéster	
Q1 - BC549 - transistor NPN de baixo ruído	R31 - 33 kΩ	C14, C15 - 2,2 nF - poliéster ou cerâmico	
Q2 e Q4 - BC548 ou equivalente - transistores NPN de uso geral	R34 - 330 kΩ	C17 - 1,8 nF - poliéster ou cerâmico	
LED - LED vermelho comum	R36 - 6,8 kΩ	C25 - 5,6 nF - cerâmico	
	R37 - 560 Ω	C23 - 100 pF - cerâmico	
	R38 - 270 Ω	C24, C27, C28, C29 - 2,2 μF - eletrolíticos de 16 V	
	R42, R44 - 10 Ω	C22, C30, C31, C35 - 100 μF - eletrolíticos de 16 V	
	R45, R46 - 1 Ω	C34 - 2200 μF - eletrolítico de 25 V	
	R47 - 2,7 kΩ	C36 - 4 700 μF - eletrolítico de 25 V	
	R48 - 680 Ω	C37 - 56 nF - cerâmico	
	P1 - 100 kΩ - potenciômetro duplo log (comum aos dois canais)		
	P2, P3 - 100 kΩ - potenciômetro duplo lin (comum aos dois canais)	Diversos:	
	P4 - 100 kΩ - potenciômetro simples lin (comum aos dois canais)	T1 - Transformador com primário de acordo com a rede local e secundário de 12x12 V x 5 A	
	P5 - 10 kΩ - potenciômetros simples log (comum aos dois canais)	F1 - Fusível de 3 A	
		S1 - Interruptor simples	
		S2 - Chave de 4 pólos x 4 posições - ver texto	
		J1, J4 - jaques RCA	
		Placa de circuito impresso, radiadores de calor para os ICs, caixa de metal para o amplificador, cabo de alimentação, suporte de fusível, botões para os potenciômetros, terminais de saída para os alto-falantes, fios blindados, fios, solda etc.	
Resistores (1/8W, 5%):			
R1, R6 - 47 kΩ	R20 - 180 kΩ	Capacitores: (tensão mínima especificada para os eletrolíticos; para os demais, de poliéster ou cerâmicos, 50 V ou mais de tensão de trabalho)	
R2, R4 - 470 kΩ	R22 - 15 kΩ	C1 - 220 pF - cerâmico	
R3, R5, R35 - 39 kΩ	R28, R39 - 4,7 kΩ	C2, C4, C7, C16, C18, C19 - 47 μF - eletrolíticos de 16 V	
R7, R8 - 1 MΩ	R31 - 33 kΩ	C3 - 1 μF - eletrolítico de 25 V	
R9, R16, R41, R43 - 1 kΩ	R34 - 330 kΩ	C5 - 3,9 nF - cerâmico ou poliéster	
R10, R23 - 1,5 kΩ	R36 - 6,8 kΩ	C6 - 1 nF - cerâmico ou poliéster	
R11, R21 - 68 kΩ	R37 - 560 Ω	C8, C11, C20, C21 - 10 μF - eletrolíticos de	
R12, R33 - 470 Ω	R38 - 270 Ω		
R13 - 150 kΩ	R42, R44 - 10 Ω		
R14, R26, R27 - 220 kΩ	R45, R46 - 1 Ω		
R15, R24, R25, R29, R30, R32, R40 - 10 kΩ	R47 - 2,7 kΩ		
R17 - 820 kΩ	R48 - 680 Ω		
R18 - 82 kΩ	P1 - 100 kΩ - potenciômetro duplo log (comum aos dois canais)		
R19 - 2,2 kΩ	P2, P3 - 100 kΩ - potenciômetro duplo lin (comum aos dois canais)		

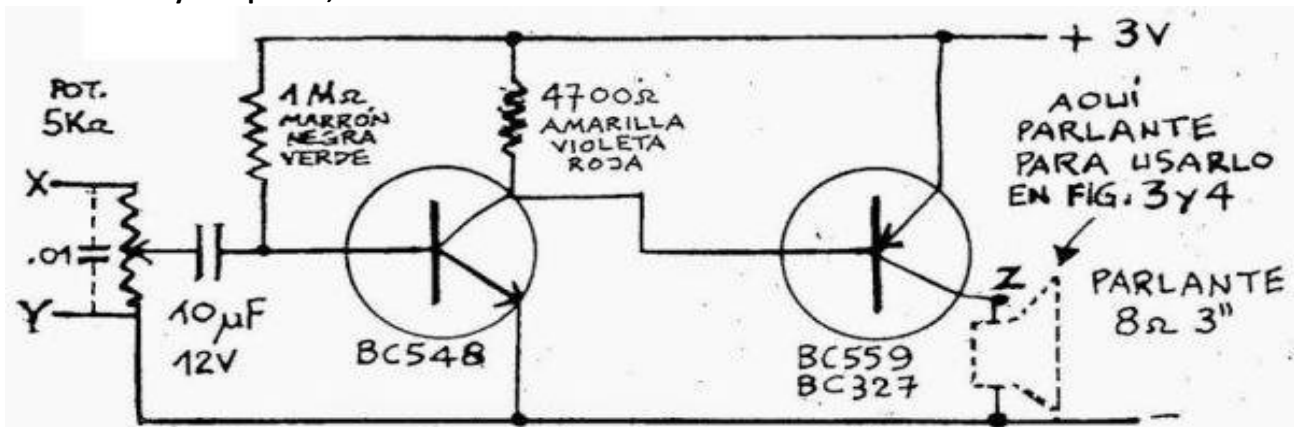




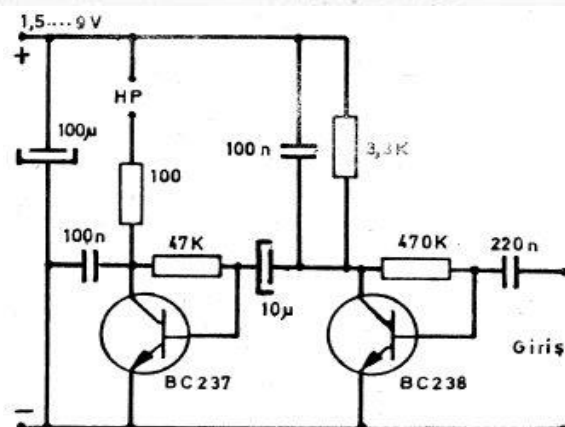
odyo ampli 300w 01-01 lm12



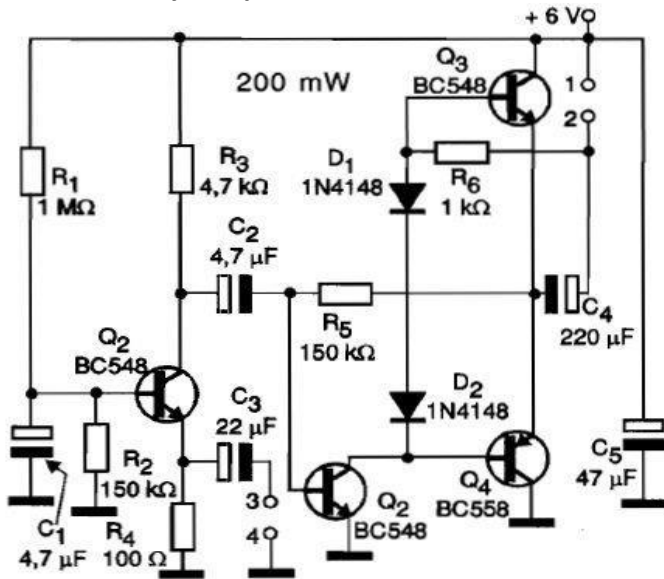
odyo ampli tr 0,1w 01-01



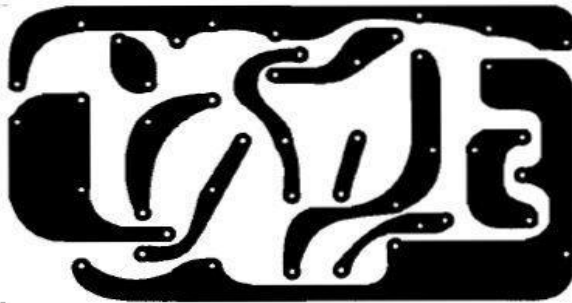
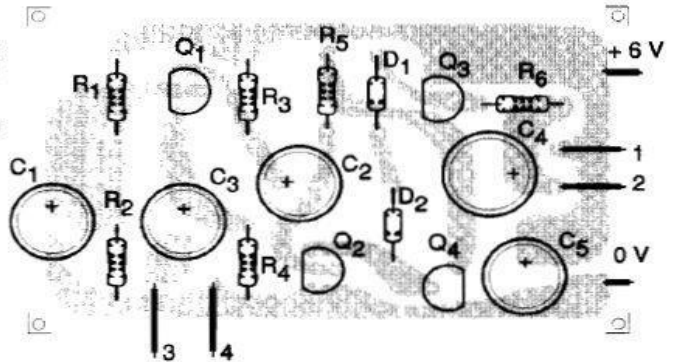
odyo ampli tr 0,1w 02-01



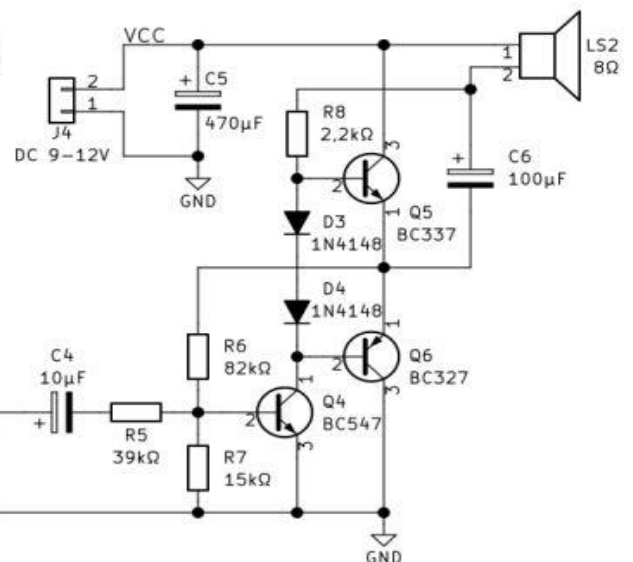
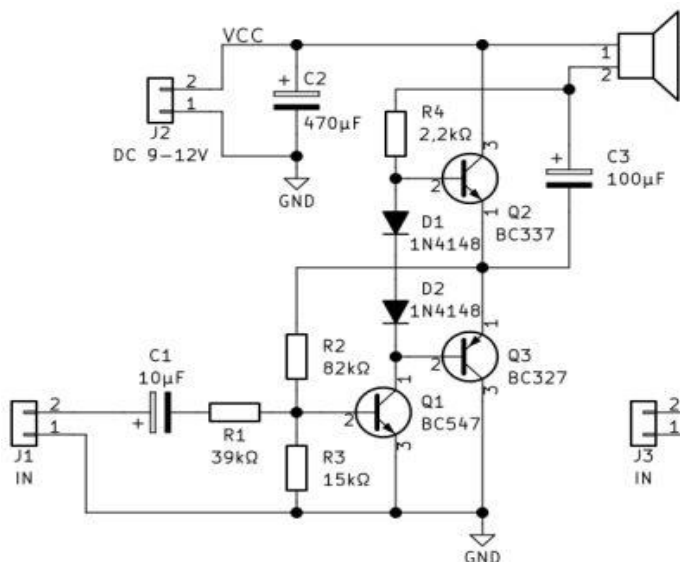
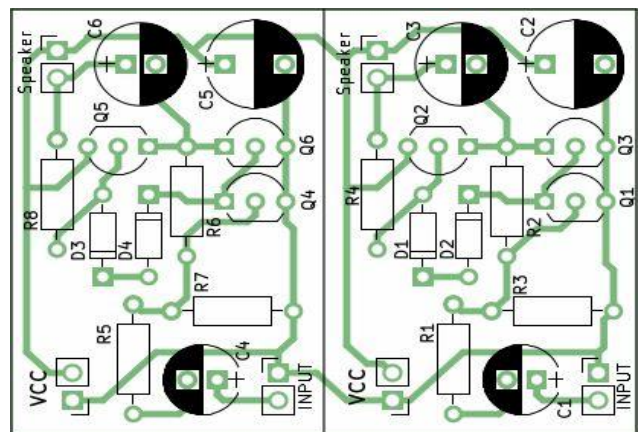
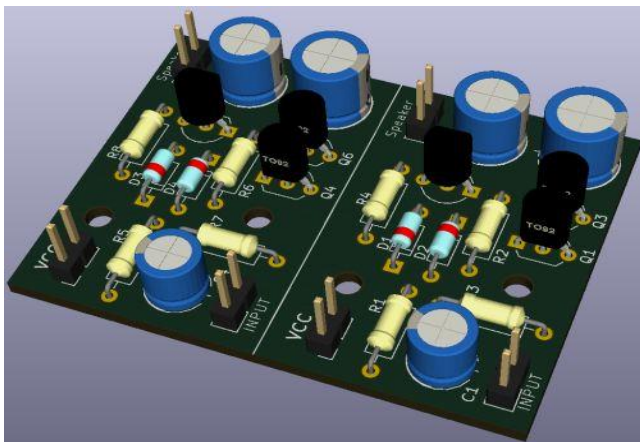
odyo ampli tr 0,2w 01-01

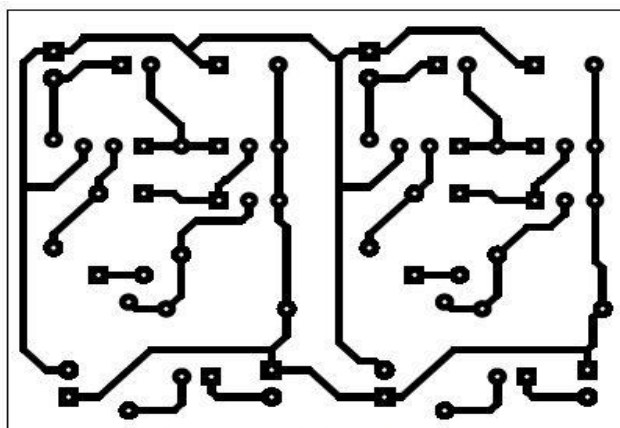


Q_1, Q_2, Q_3 - BC548 ou equivalente
 Q_4 - BC558 ou equivalente
 D_1, D_2 - 1N4148 ou equivalentes
 R_1 - 1 M ohms x 1/8 W
 R_2, R_5 - 150 k ohms x 1/8 W
 R_3 - 4,7 k ohms x 1/8 W
 R_4 - 100 ohms x 1/8 W
 R_6 - 1 k ohms x 1/8 W
 C_1, C_2 - 4,7 μ F x 6 V - capacitor eletrolítico
 C_3 - 22 μ F x 6 V - capacitor eletrolítico
 C_4 - 220 μ F x 6 V - capacitor eletrolítico
 C_5 - 47 μ F x 12 V - capacitor eletrolítico

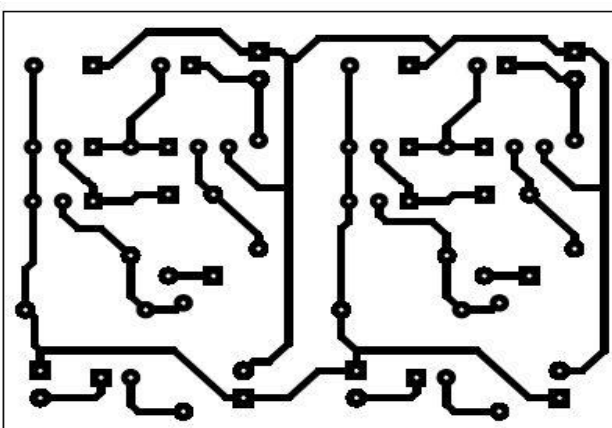


odyo ampli tr 0,3w 01-01

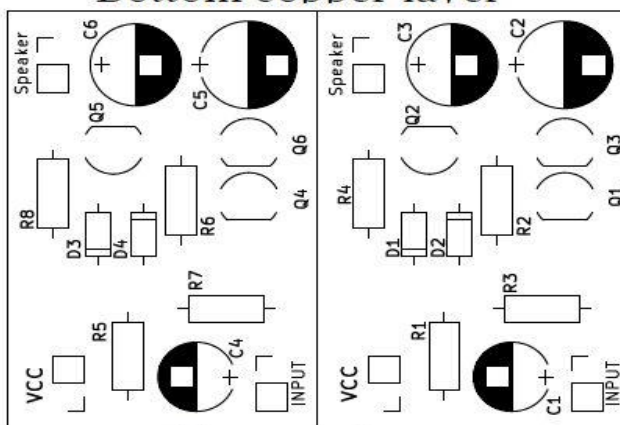




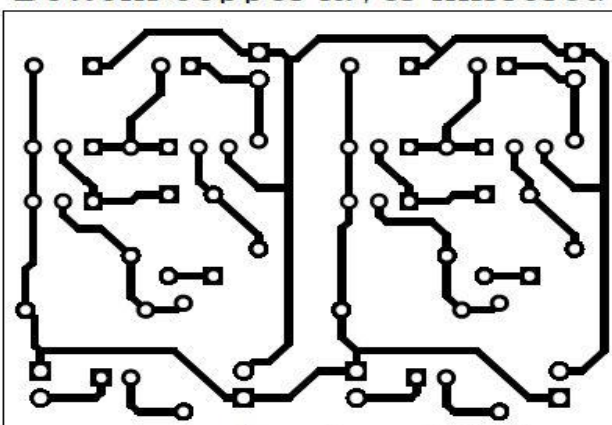
Bottom copper layer



Bottom copper layer mirrored



Silkscreen layer



mirrored with real drills

odyo ampli tr 0,3w 02-01

AMPLIFICADOR DE ÁUDIO TRANSISTORIZADO

O circuito mostrado na figura 1 usa transistores comuns para fornecer uma boa amplificação em um pequeno alto-falante. Sua potência pode chegar aos 500 mW com 9V e ele é ideal para rádios experimentais, intercomunicadores, seguidores de sinais e outras aplicações em que um amplificador pequeno se faz necessário. O resistor R_1 deve ter seu valor obtido experimentalmente para se conseguir maior ganho com menor distorção. Alto-falantes de 10 a 20 cm são ideais para a melhor qualidade de som. A fonte, se for a partir da rede, deve ter boa filtragem. O controle de volume pode ser um potenciômetro de 10 kohms agregado à entrada.

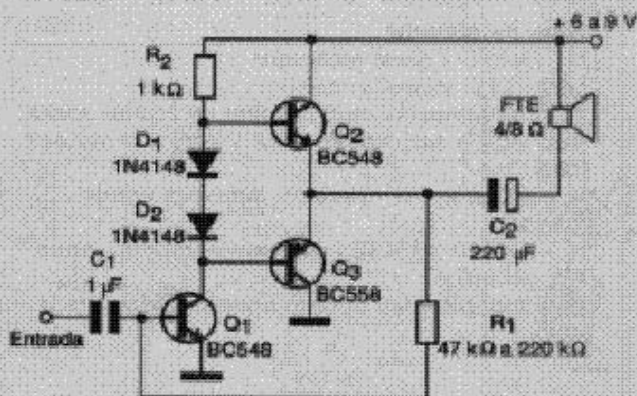


Figura 1

A figura 2 mostra uma placa de circuito impresso para a montagem deste amplificador.

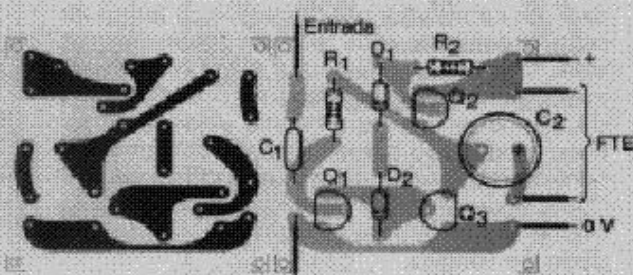
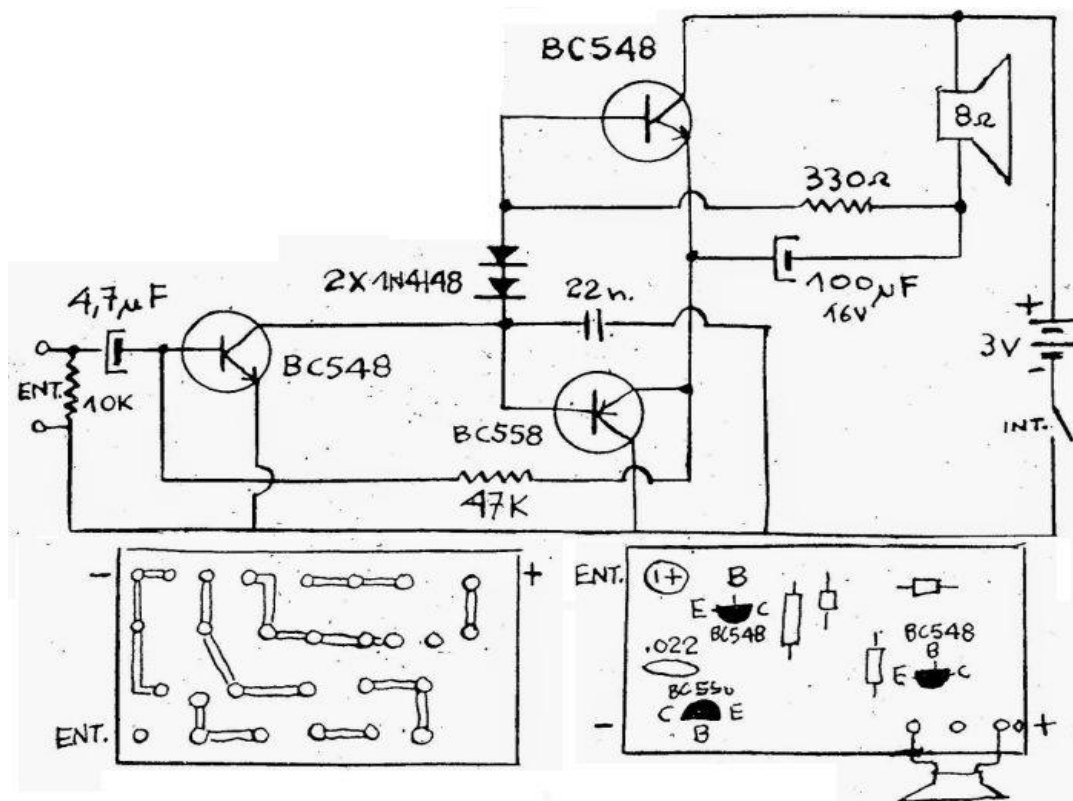


Figura 2

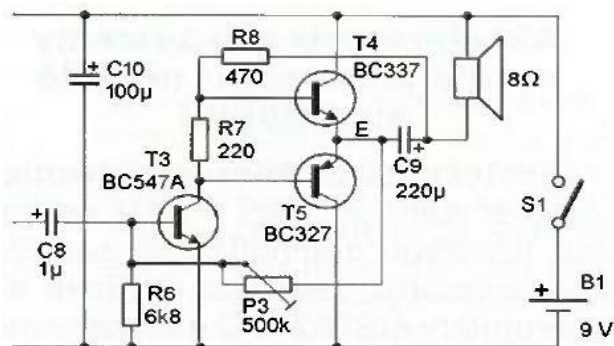
Lista de Material

Q_1, Q_3 - BC548 ou equivalente - transistores NPN de uso geral
 Q_2 - BC558 ou equivalente - transistor PNP de uso geral
 D_1, D_2 - 1N4148 - diodos de uso geral
 R_1 - 47k a 220 kΩ x 1/8 W - resistor - experimental para menor distorção
 R_2 - 1 kΩ x 1/8 W - resistor - marrom, preto, vermelho
 C_1 - 1 μF x 12 V - capacitor eletrolítico
 C_2 - 220 μF x 12 V - capacitor eletrolítico
 FTE - 4 ou 8 Ω - alto-falante pequeno
 Diversos: placa de circuito impresso, fios, solda, etc.

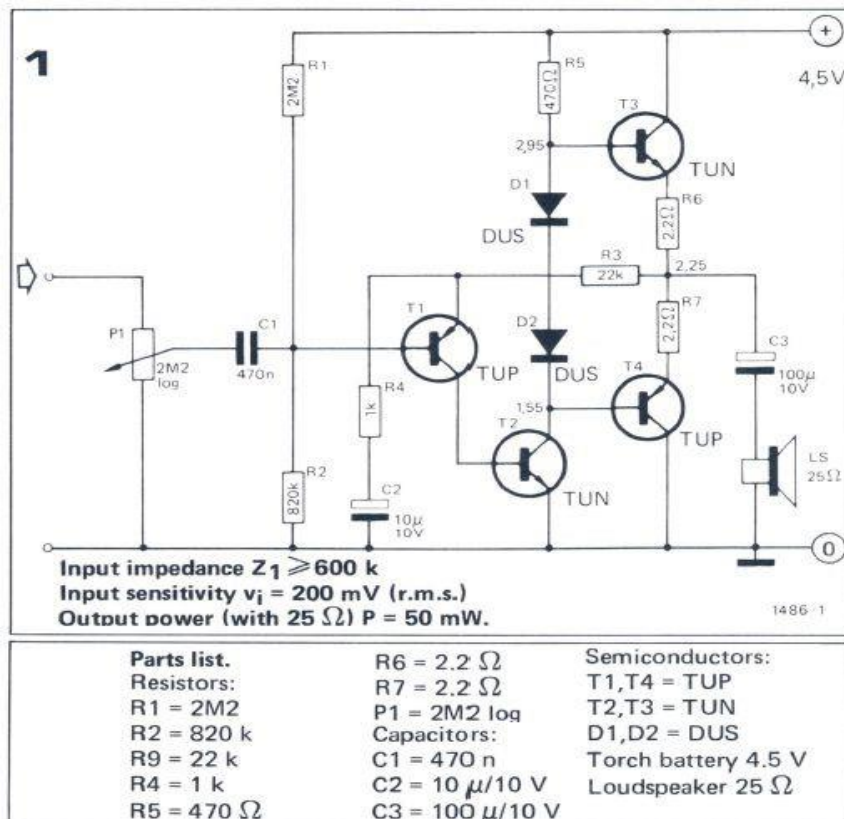
odyo ampli tr 0,3w 03-01

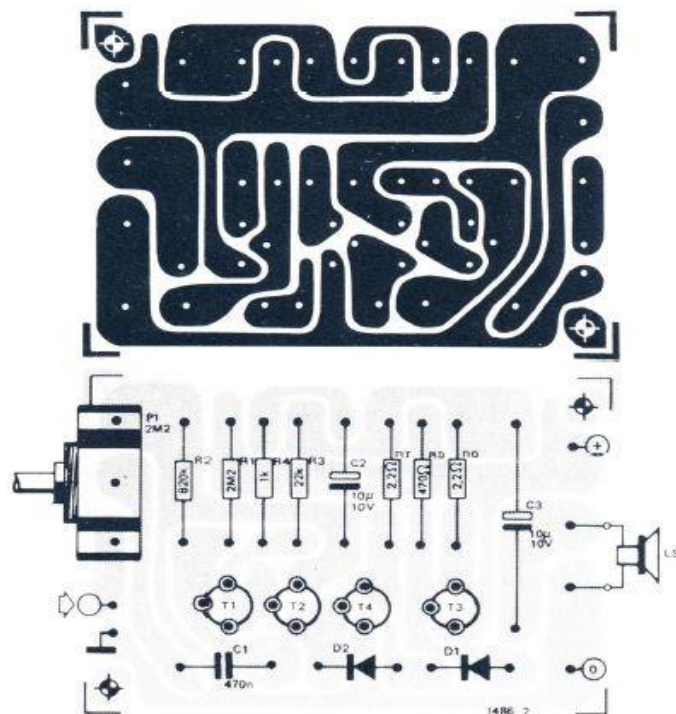


odyo ampli tr 0,3w 04-01

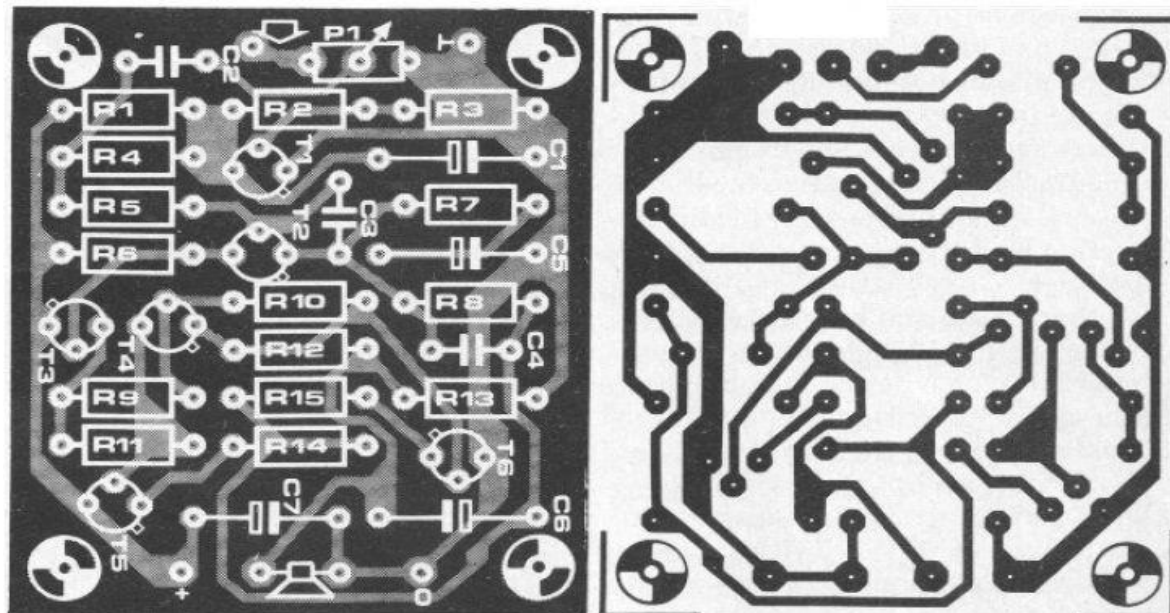
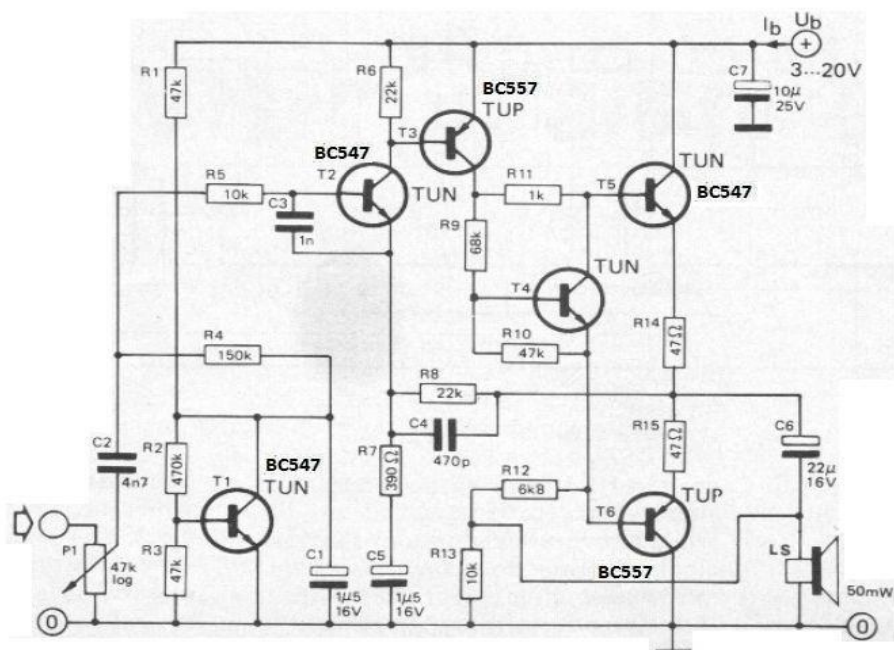


odyo ampli tr 0,05w 01 01

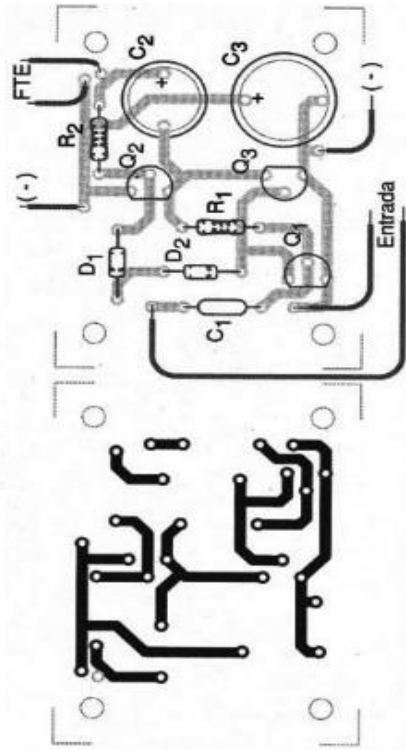
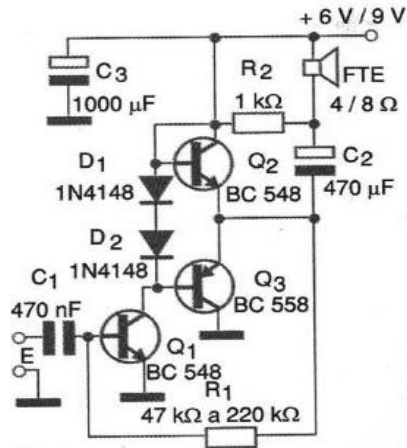




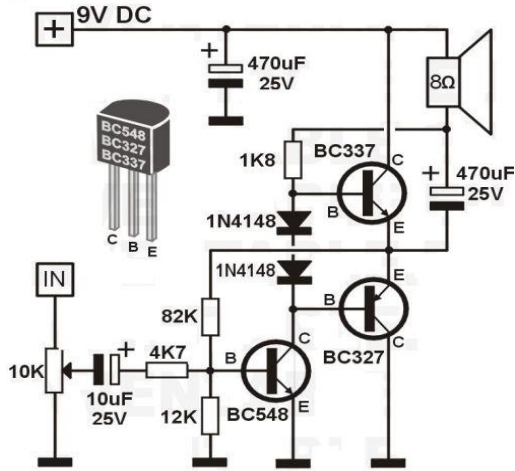
odyo ampli tr 0,05w 02-01



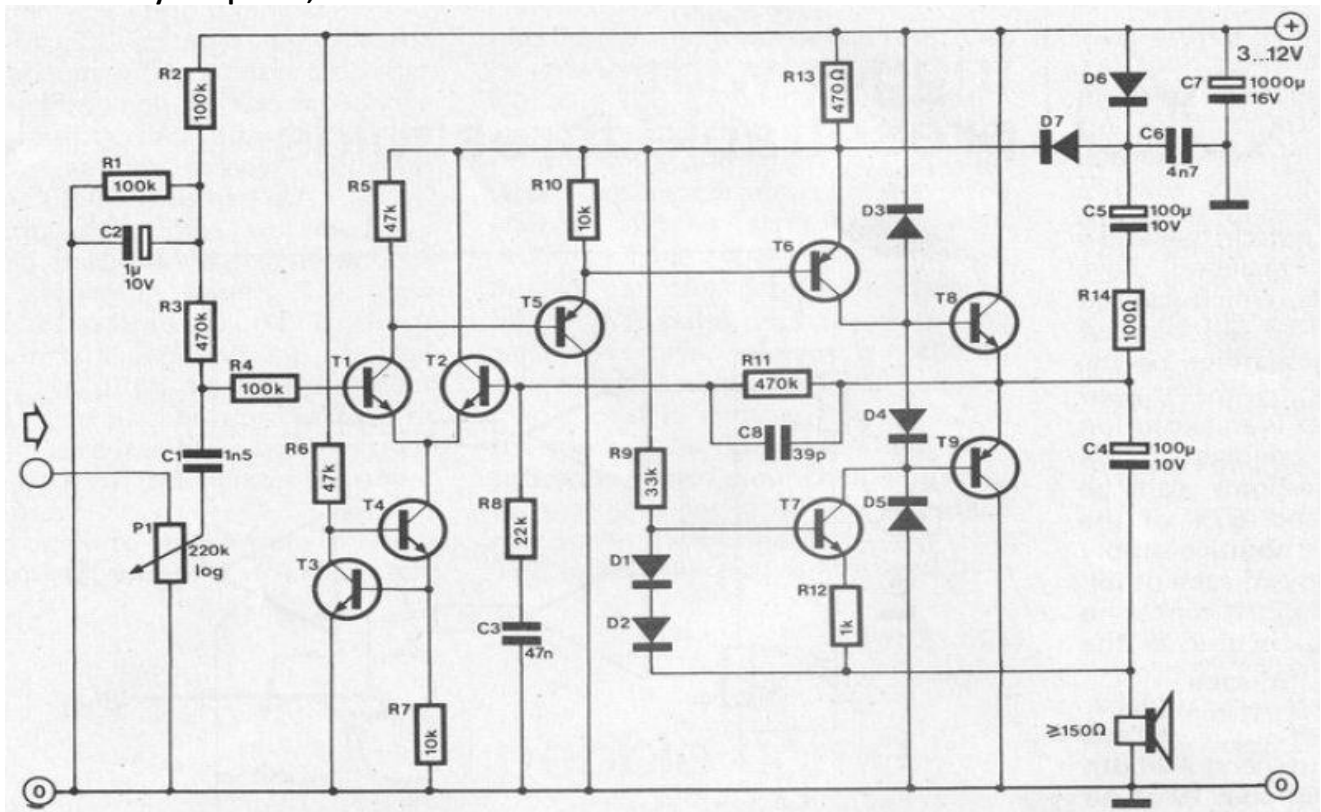
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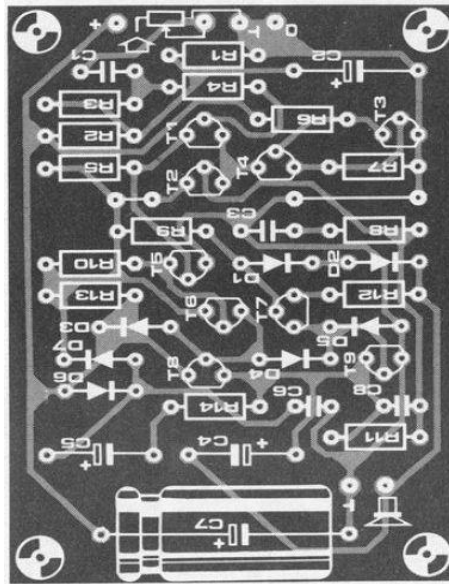
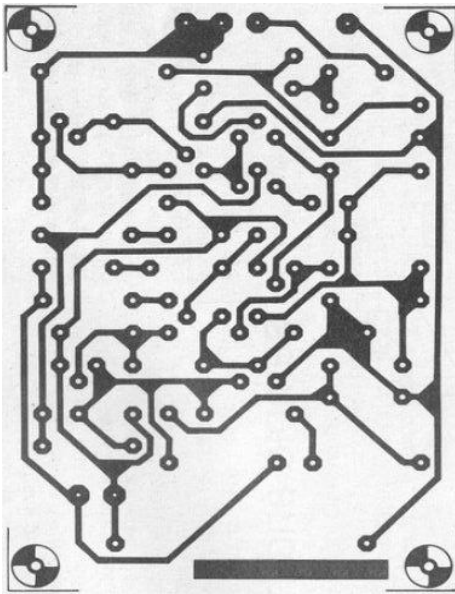
odyo ampli tr 0,5w 02 01



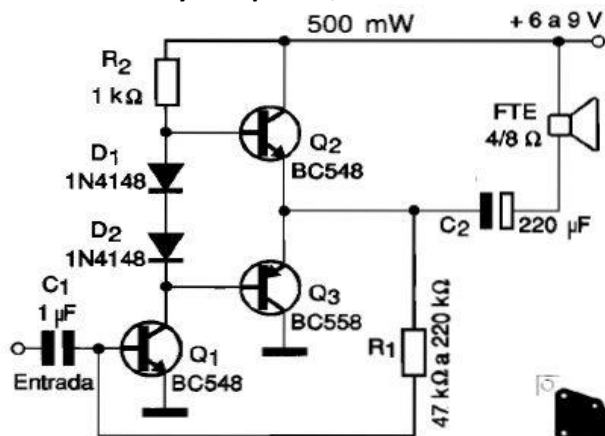
odyo ampli tr 0,5w 03 01



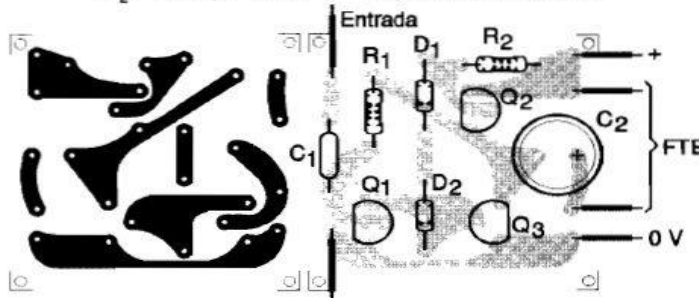
R1, R2, R4 = 100 k	R12 = 1 k	C3 = 47 n	T5, T6 = BC 557B
R3, R11 = 470 k	R13 = 470 Ω	C4, C5 = 100 μ/10 V	T8 = BC 549C
R5, R6 = 47 k	R14 = 100 Ω	C6 = 4n7 (cer.)	T9 = BC 559C
R7, R10 = 10 k	P1 = 220 k log.	C7 = 1000 μ/16 V	D1 ... D7 = 1N4148
R8 = 22 k	C1 = 1n5	C8 = 39 p	
R9 = 33 k	C2 = 1 μ/10 V	T1 ... T4, T7 = BC 547B	



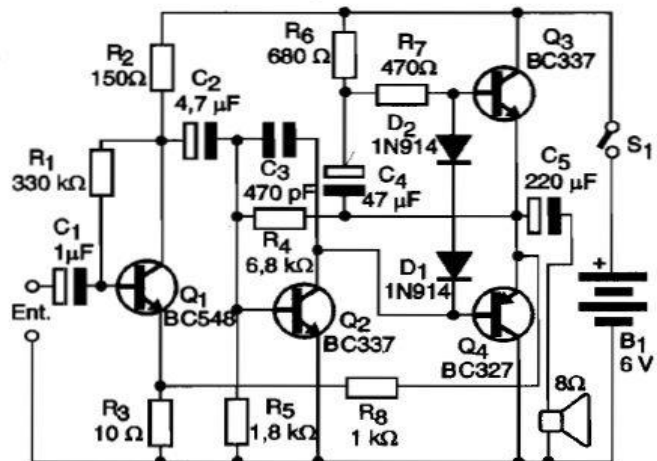
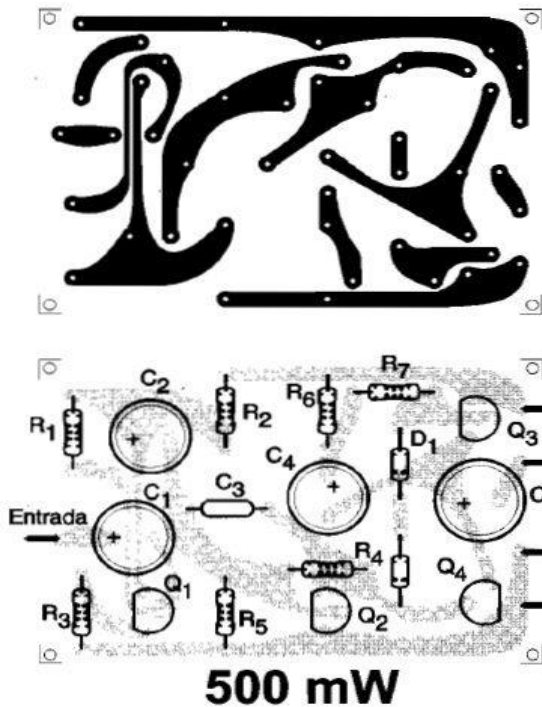
odyo ampli tr 0,5w 04 01



Q_1, Q_3 - BC548 ou equivalente - transistores NPN de uso geral
 Q_2 - BC558 ou equivalente - transistor PNP de uso geral
 D_1, D_2 - 1N4148 - diodos de uso geral
 R_1 - 47k a 220 k Ω x 1/8 W - resistor - experimentar para menor distorção
 R_2 - 1 k Ω x 1/8 W - resistor - marrom, preto, vermelho
 C_1 - 1 μ F x 12 V - capacitor eletrolítico
 C_2 - 220 μ F x 12 V - capacitor eletrolítico

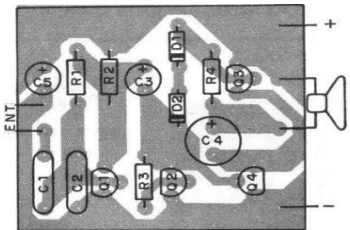
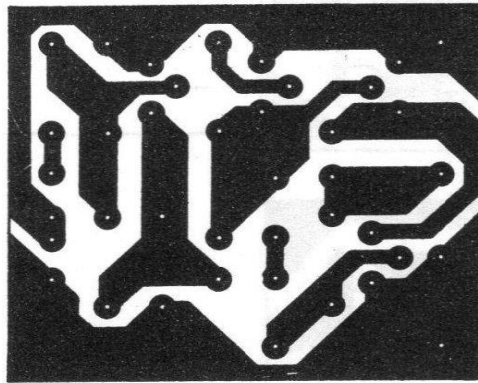
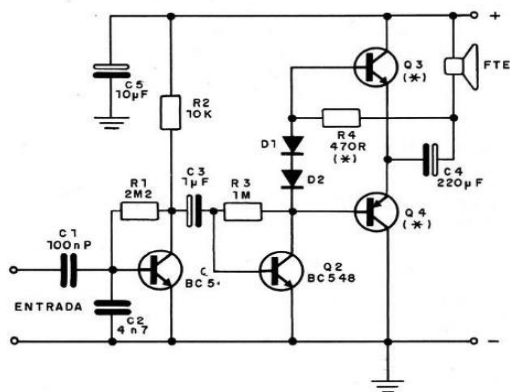


odyo ampli tr 0,5w 05 01

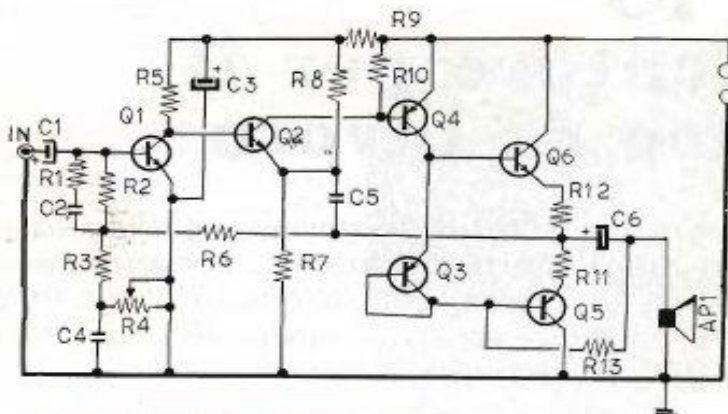


Q_1 - BC548 ou equivalente
 Q_2, Q_3 - BC337 ou equivalente
 Q_4 - BC327 ou equivalente
 D_1, D_2 - 1N914 ou 1N4148
 R_1 - 330 k Ω x 1/8 W
 R_2 - 150 Ω x 1/8 W
 R_3 - 10 Ω x 1/8 W
 R_4 - 6,8 k Ω x 1/8 W
 R_5 - 1,8 k Ω x 1/8 W
 R_6 - 680 Ω x 1/8 W
 R_7 - 470 Ω x 1/8 W
 R_8 - 1 k Ω x 1/8 W
 C_1 - 1 μ F x 6 V
 C_2 - 4,7 μ F x 6 V
 C_3 - 470 pF - cerâmica
 C_4 - 47 μ F x 6 V
 C_5 - 220 μ F x 6 V

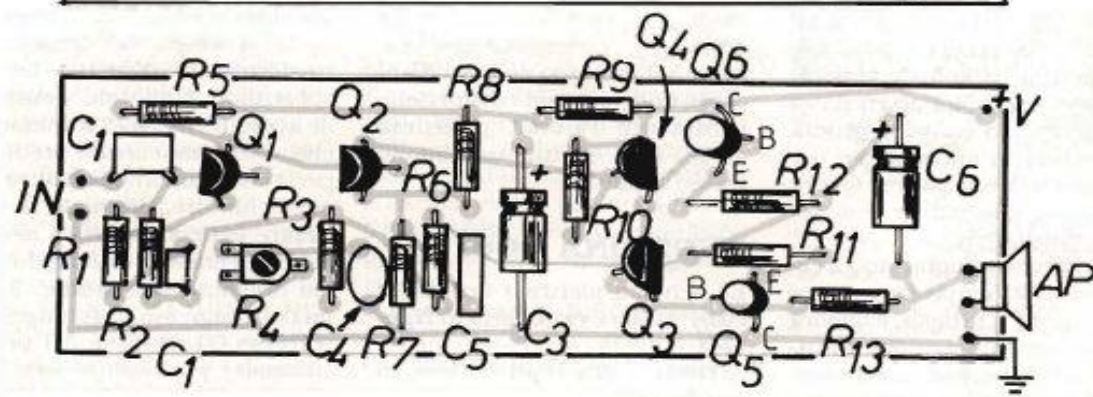
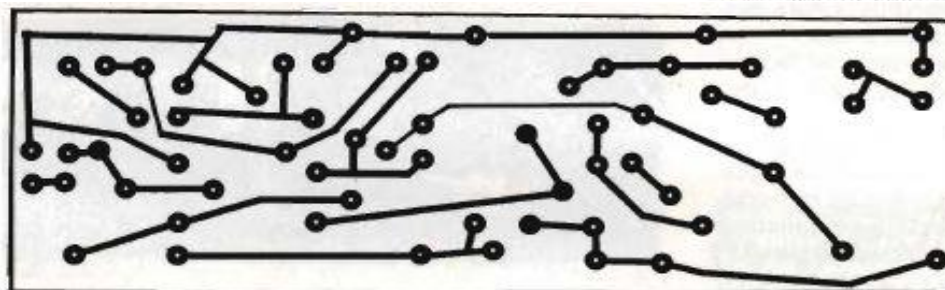
odvo ampli tr 1w 01-01



odvo ampli tr 1w 02-01

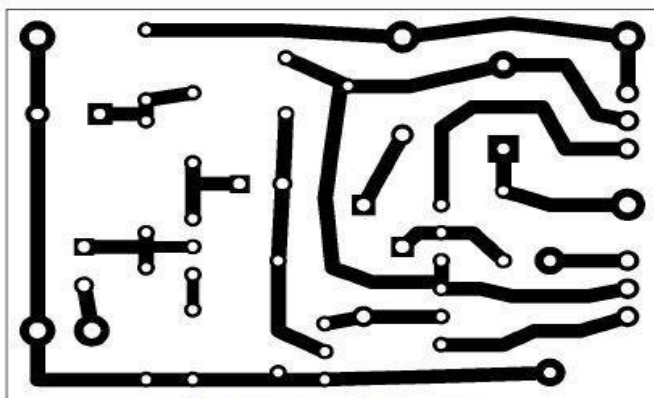
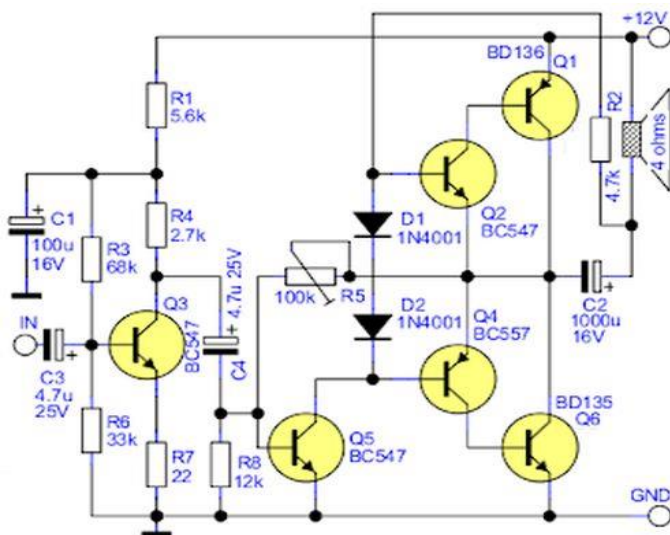


R1: 220 kΩ
 R2, R6: 470 kΩ
 R3: 10 kΩ
 R4: trimmer orizz.le da 220 kΩ
 R5: 47 kΩ
 R7, R8: 1500 Ω
 R9: 2700 Ω
 R10, R13: 390 Ω
 R11, R12: 2,2 Ω
 C1: 10 µF, 16 VL, elettrol. vert.
 C2, C5: 1 nF, poliestere
 C3: 220 µF, 16 VL, elettrol. orizz.
 C6: 100 µF, 16 VL, elettrol. orizz.
 Q1, Q2: BC548 o equival.
 Q3: D4 (vedi testo)
 Q4: BC557 o equival.
 Q5: AC188K (vedi testo)
 Q6: AC187K (vedi testo)
 Alimentazione: 9-15 Vcc

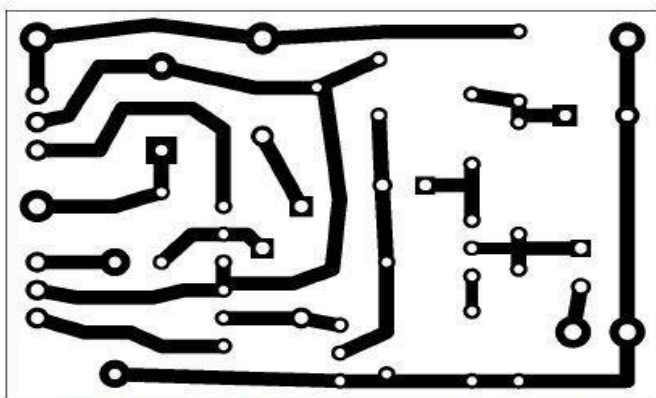


odvo ampli tr 2,5w 01-01

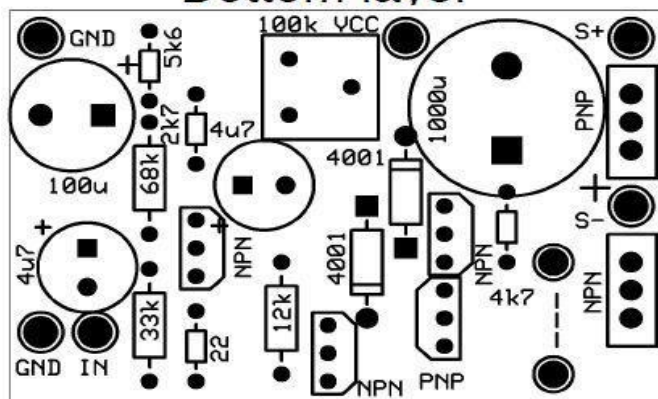




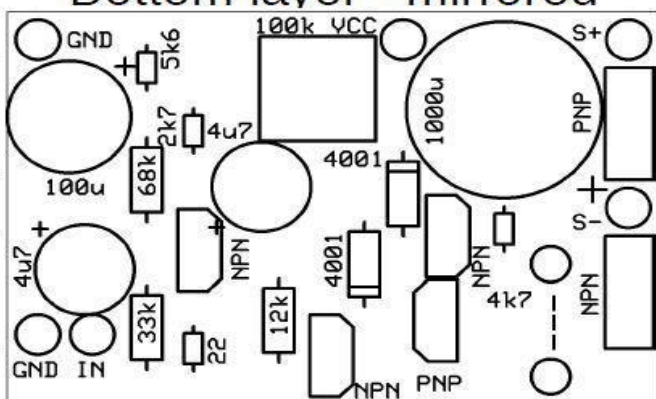
Bottom layer



Bottom layer - mirrored

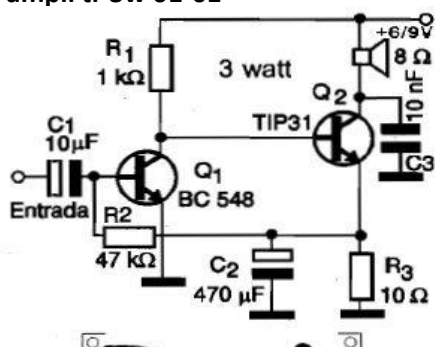


Parts outline

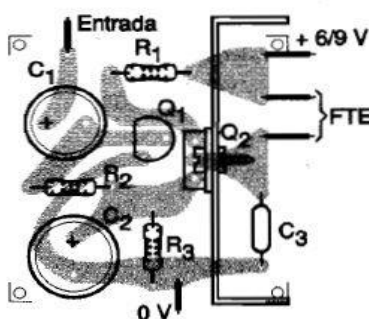


Silkscreen

oddyo ampli tr 3w 01-01



Q_1 - BC548 ou equivalente
 Q_2 - TIP31
 R_1 - $1\text{ k}\Omega \times 1/8\text{ W}$
 R_2 - $47\text{ k}\Omega \times 1/8\text{ W}$
 R_3 - $10\text{ }\Omega \times 1\text{ W}$
 C_1 - $10\text{ }\mu\text{F} \times 16\text{ V}$
 C_2 - $470\text{ }\mu\text{F} \times 12\text{ V}$
 C_3 - 10 nF - cerâmico



odyo ampli tr 4w 01-01

6V - 12V (+)

R4 1K

D1 1N4001

Q2 BD139

R5 2,2

Punto A (1/2 de +V)

regular para obtener en el punto A la mitad de +V

R3 100K

D2 1N4001

Q3 BD140

R6 2,2

C1 10uF

R1 47K VOLUME

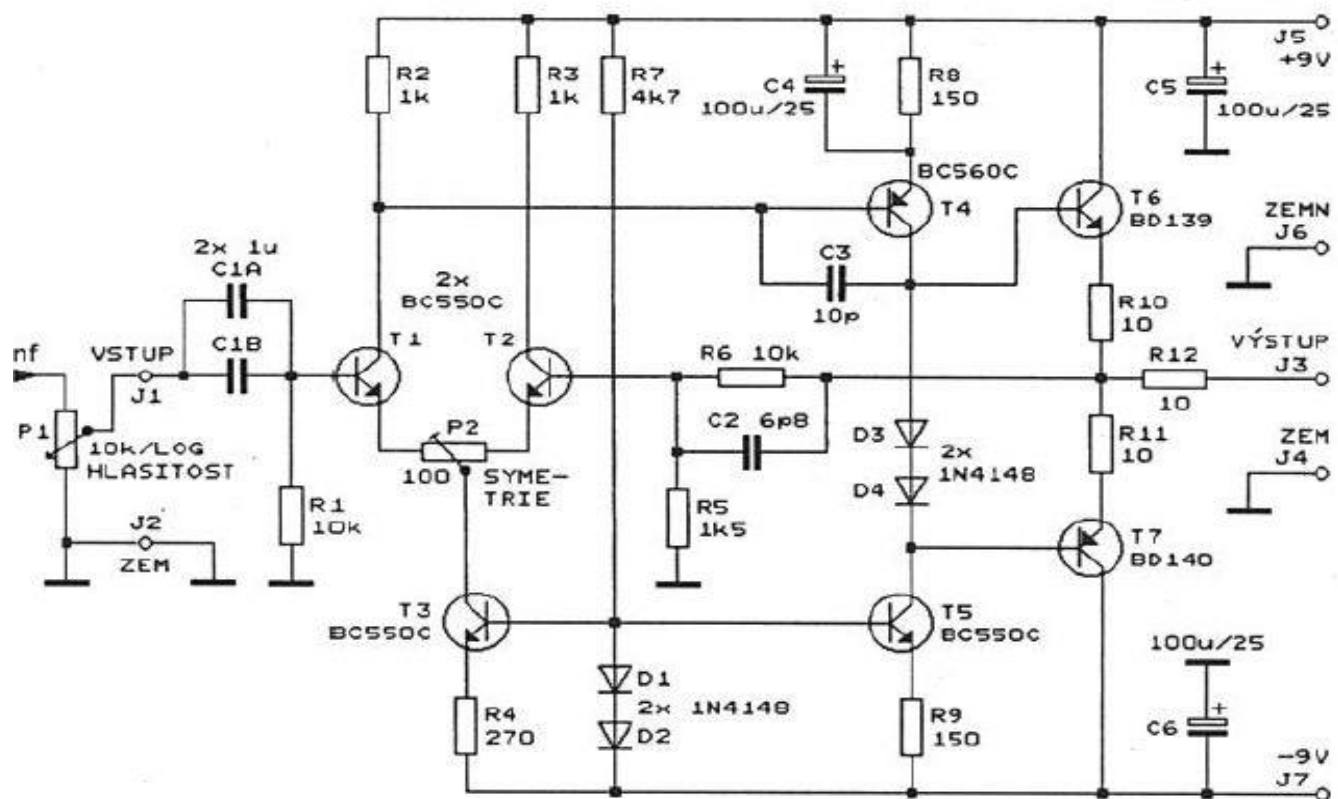
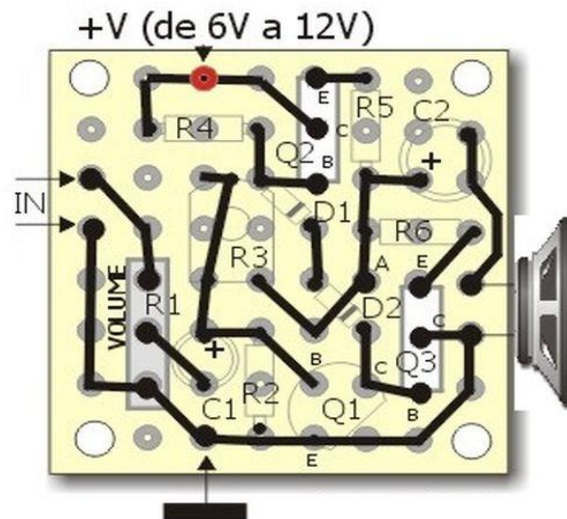
R2 22K

Q1 BC548

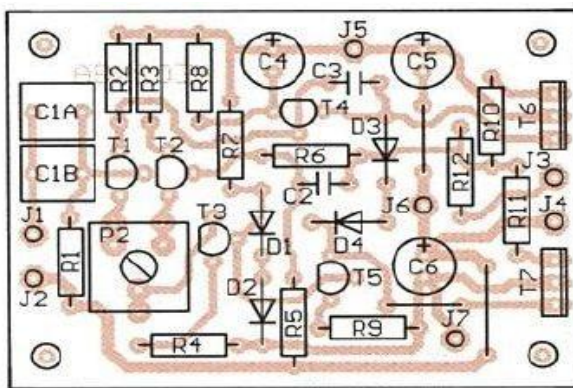
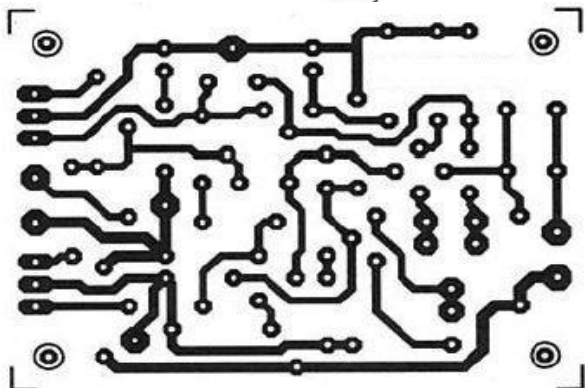
C2 470uF

IN

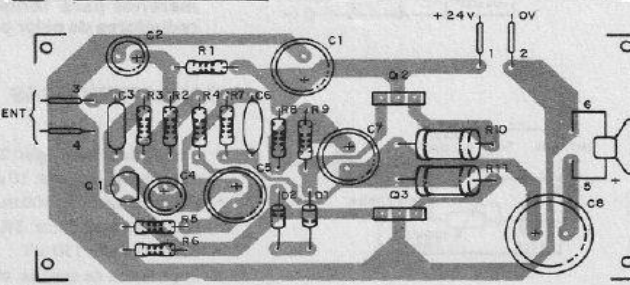
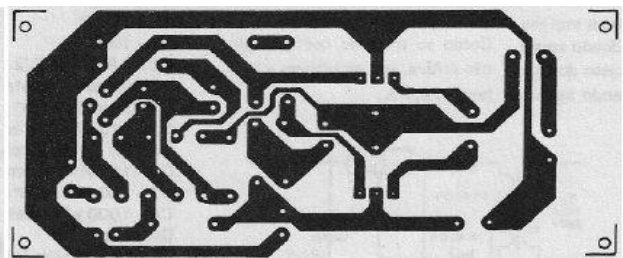
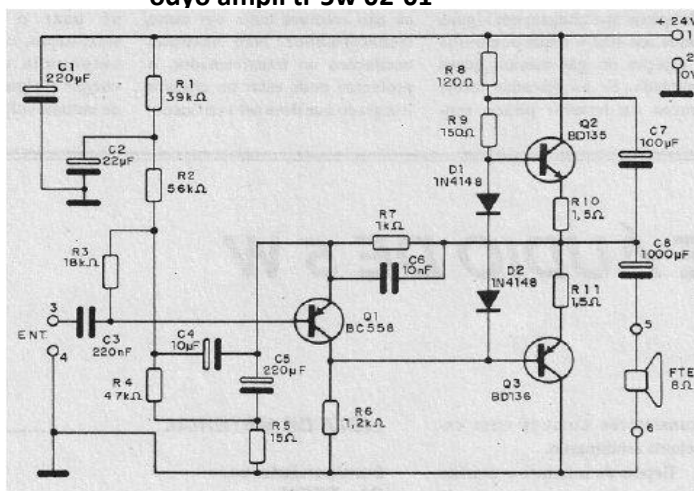
OUT



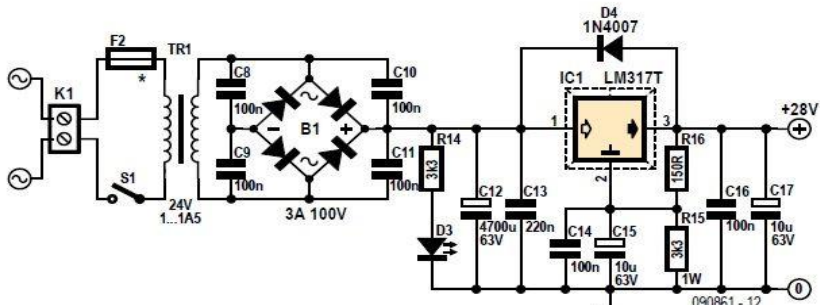
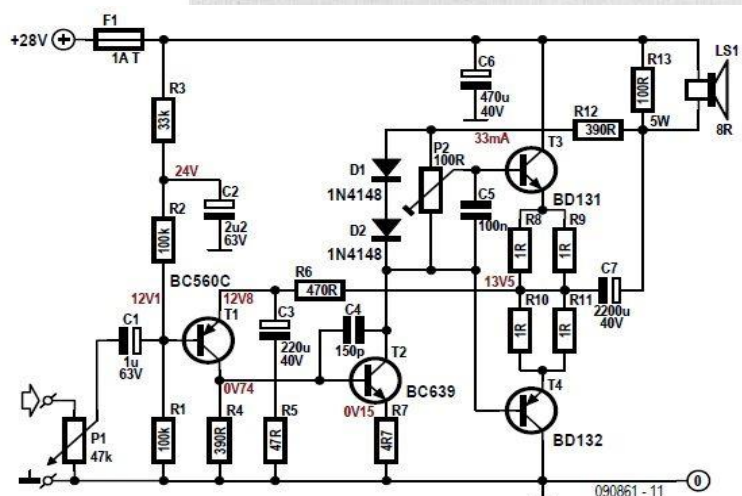
R1, R6	10 k Ω /0,6 W/1 %, metal.	C1A, C1B	1 μ F/J/63 V, fóliový
R2, R3	1 k Ω /0,6 W/1 %, metal.	C2	6,8 pF/NP0, keramický
R4	270 Ω /0,6 W/1 %, metal.	C3	10 pF/NP0, keramický
R5	1,5 k Ω /0,6 W/1 %, metal.	C4 až C6	100 μ F/25 V, radiální
R7	4,7 k Ω /0,6 W/1 %, metal.	D1 až D4	1N4148
R8, R9	150 Ω /0,6 W/1 %, metal.	T1 až T3, T5	BC550C (TO92)
R10 až R12	10 Ω /0,6 W/1 %, metal.	T4	BC560C (TO92)
P1	10 k Ω , potenciometr logaritmický	T6	BD139-16 (TO126)
P2	100 Ω , trimr 10 mm, ležatý	T7	BD140-16 (TO126)
			deska s plošnými spoji č. KE02X8A



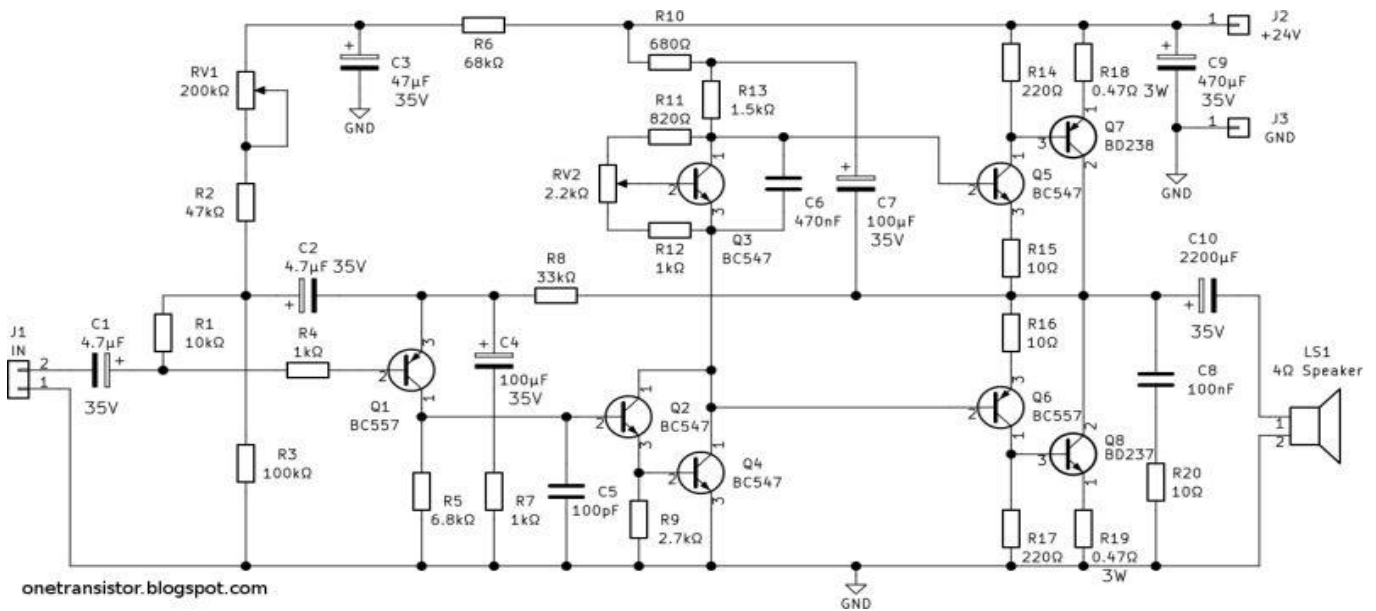
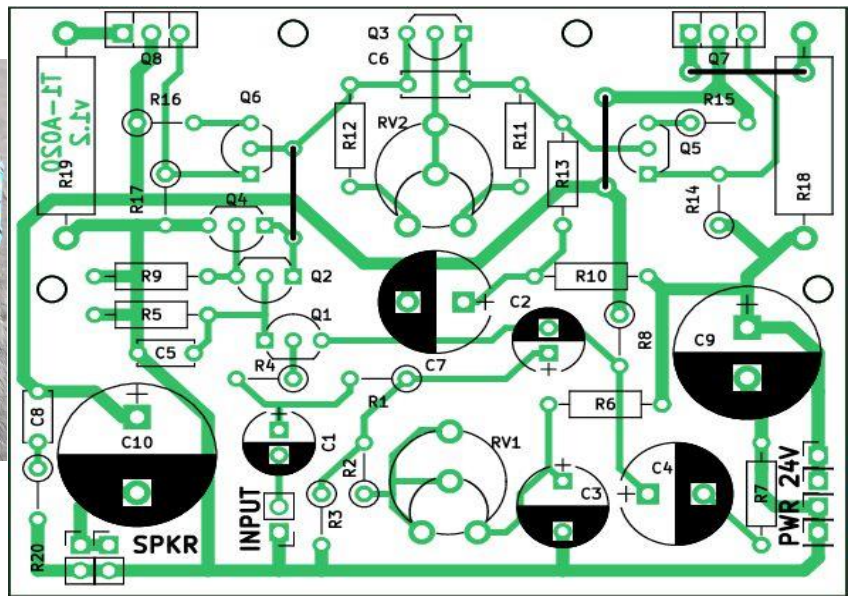
odryo amplí tr 5w 02-01



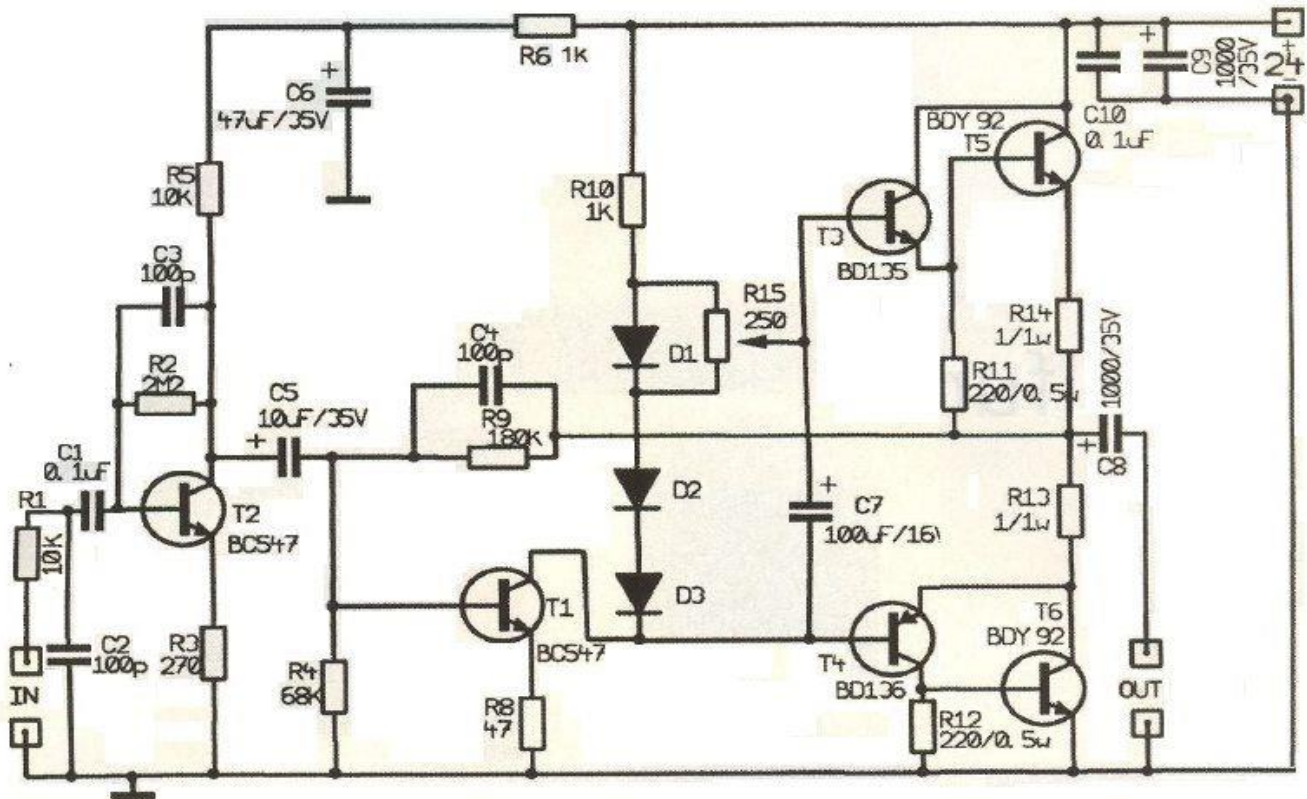
odryo amplí tr 9w 01-01

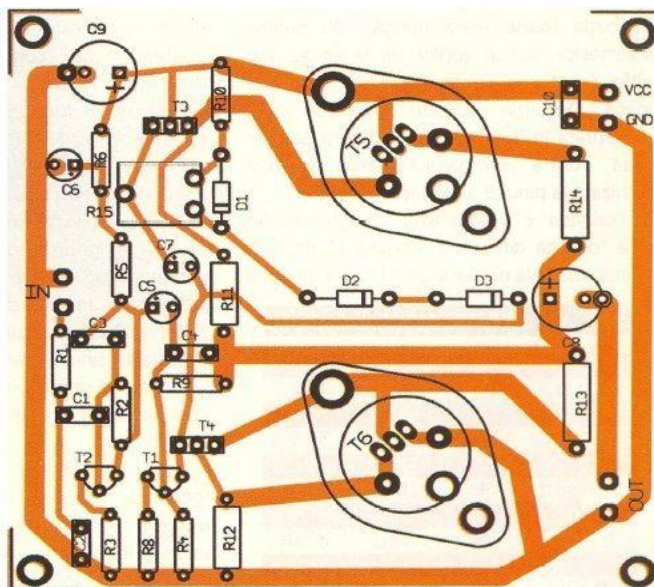
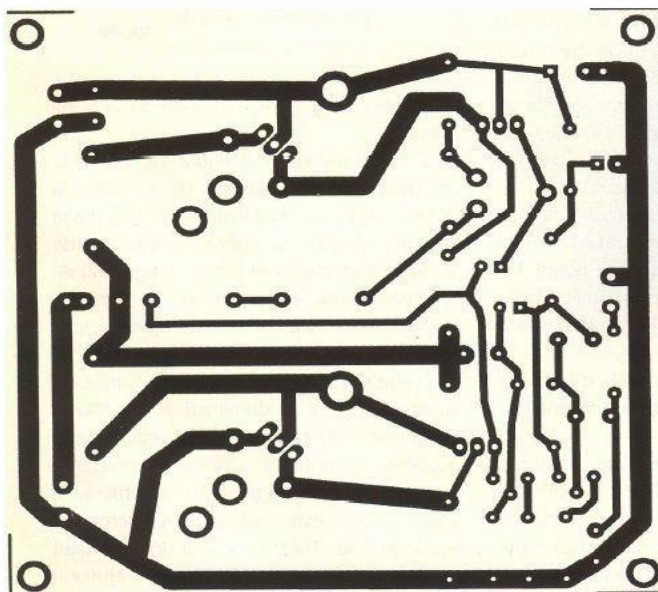


odyo ampli tr 10w 01-01

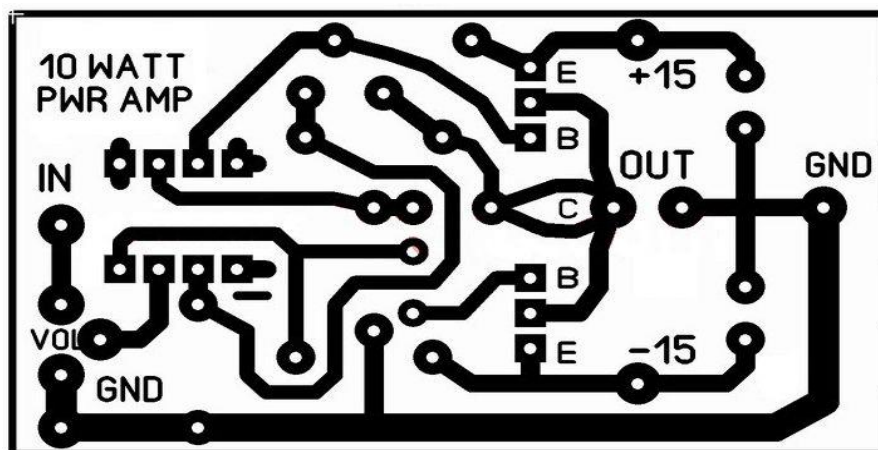
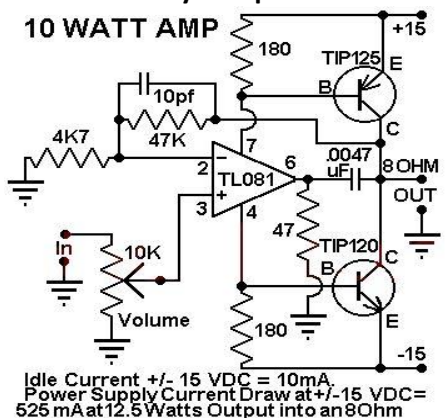


odyo ampli tr 10w 02-01

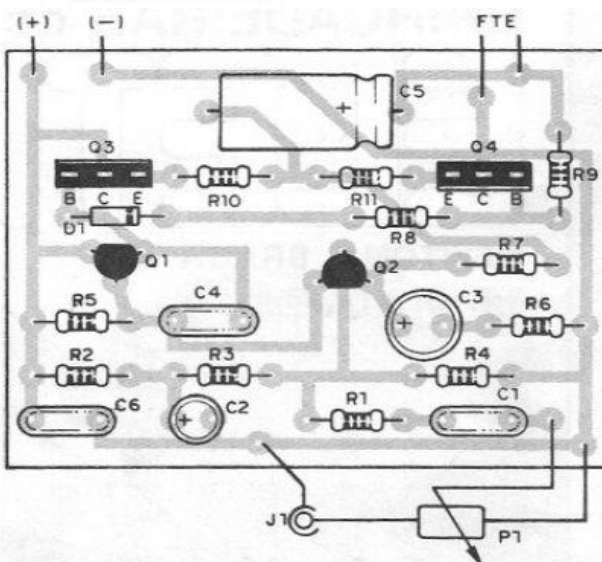
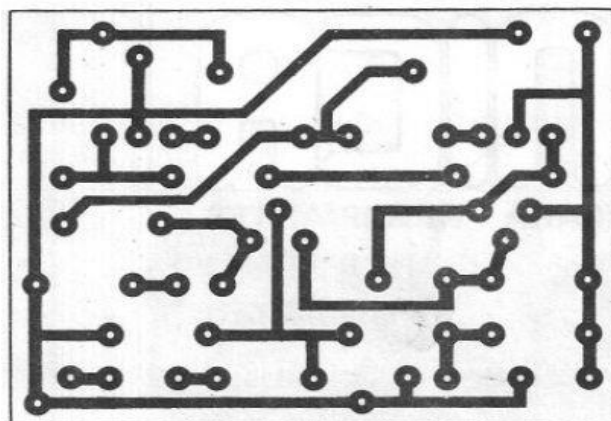
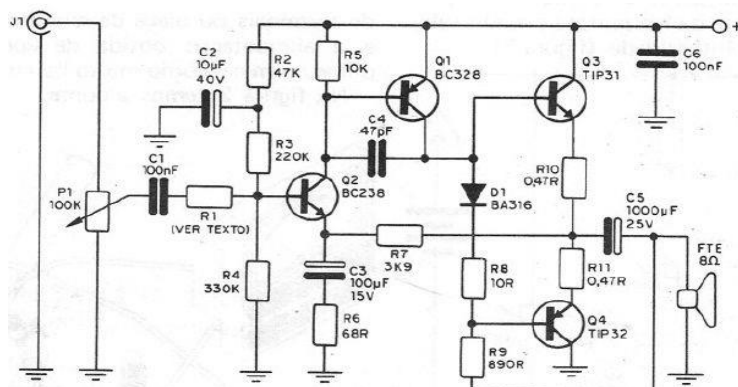




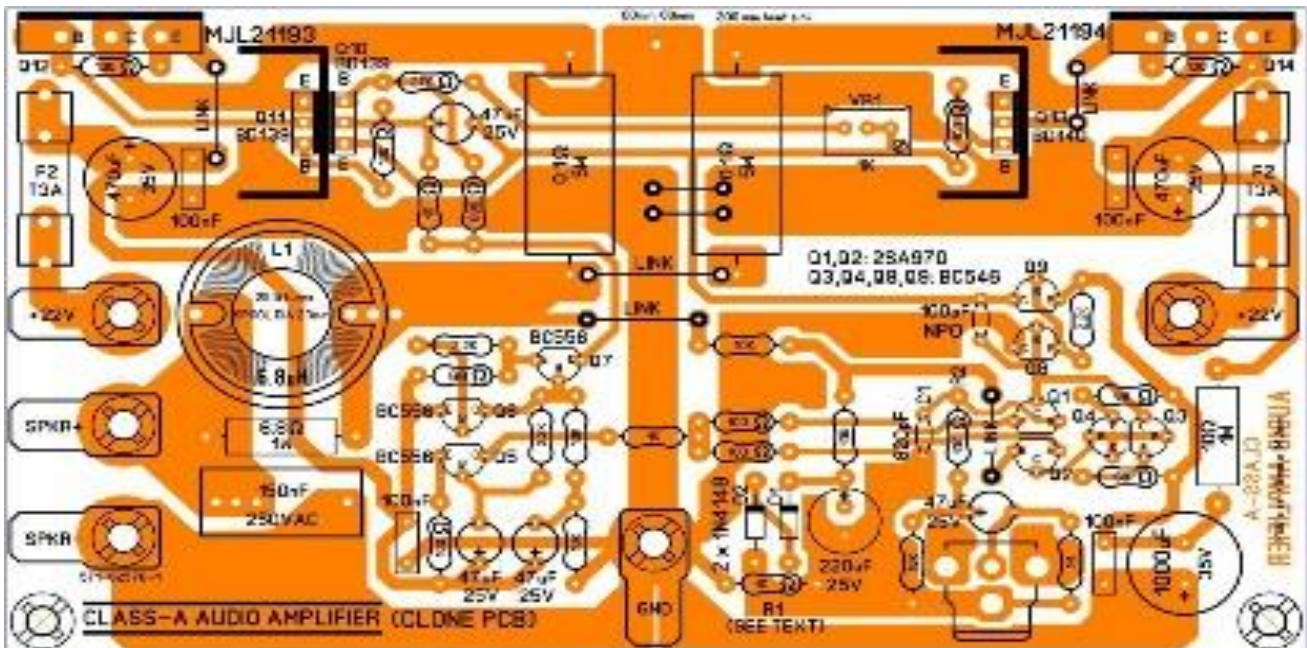
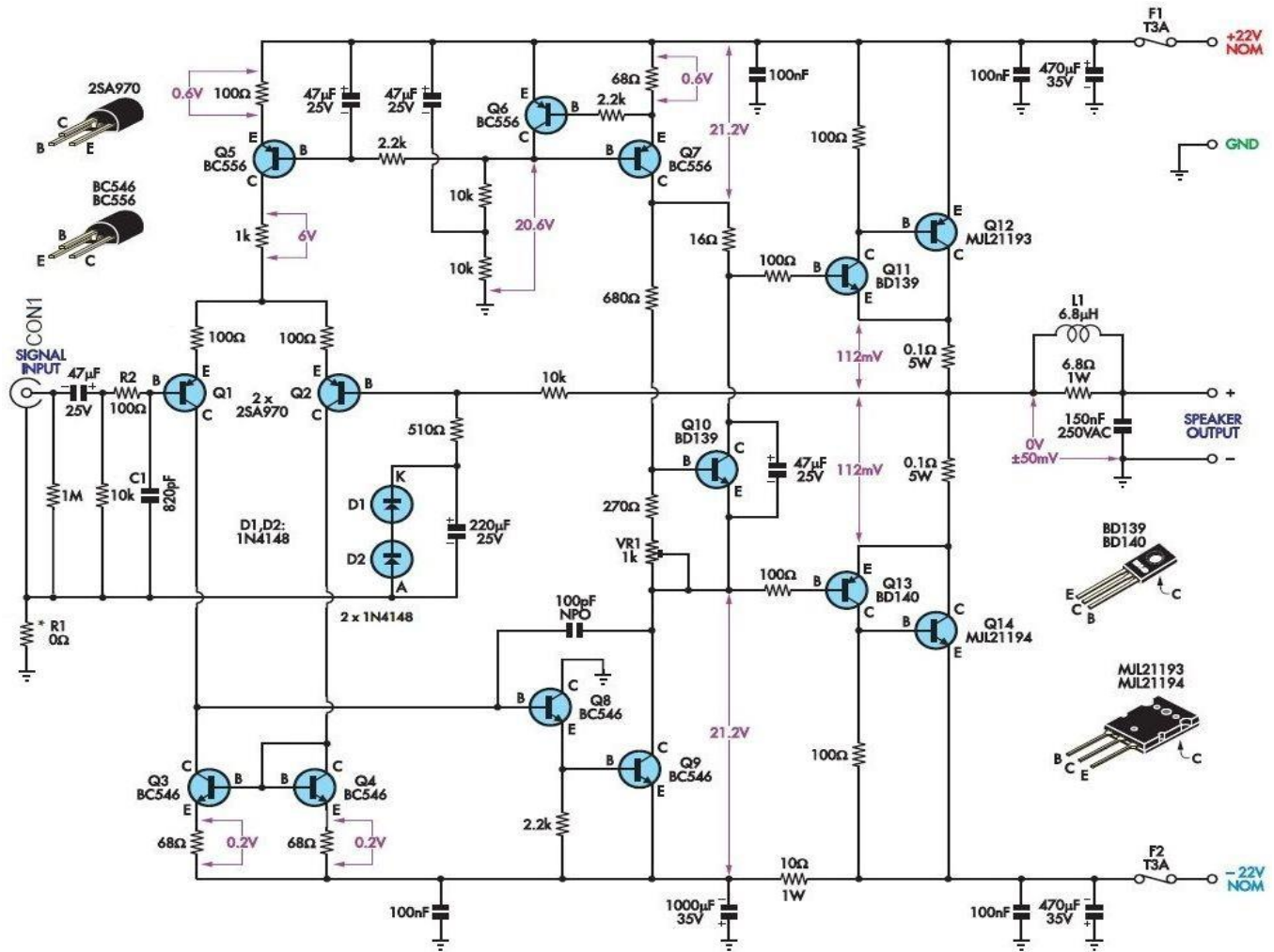
odyo ampli tr 10w 03-01

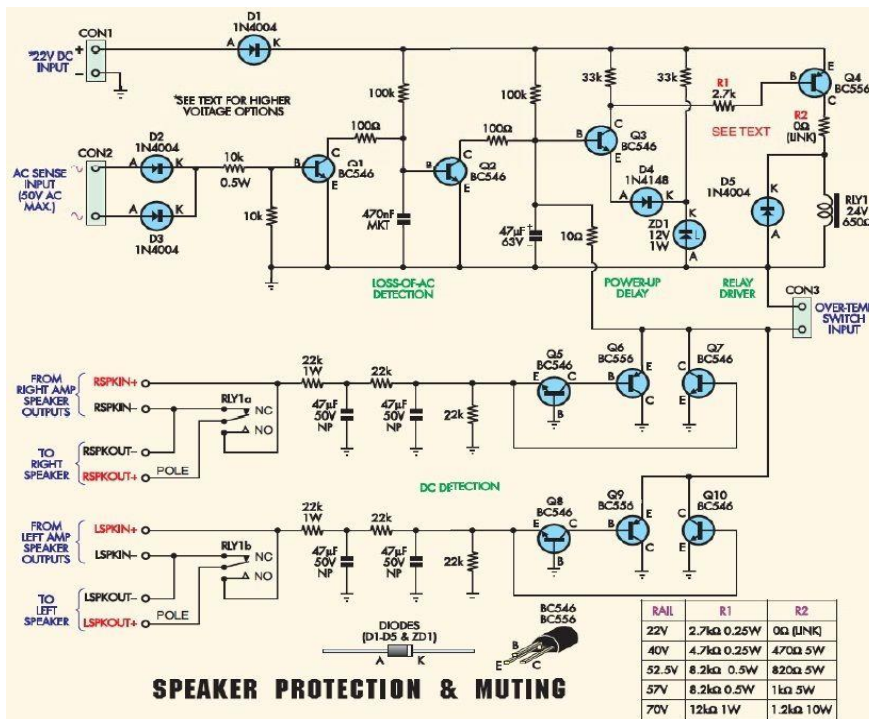
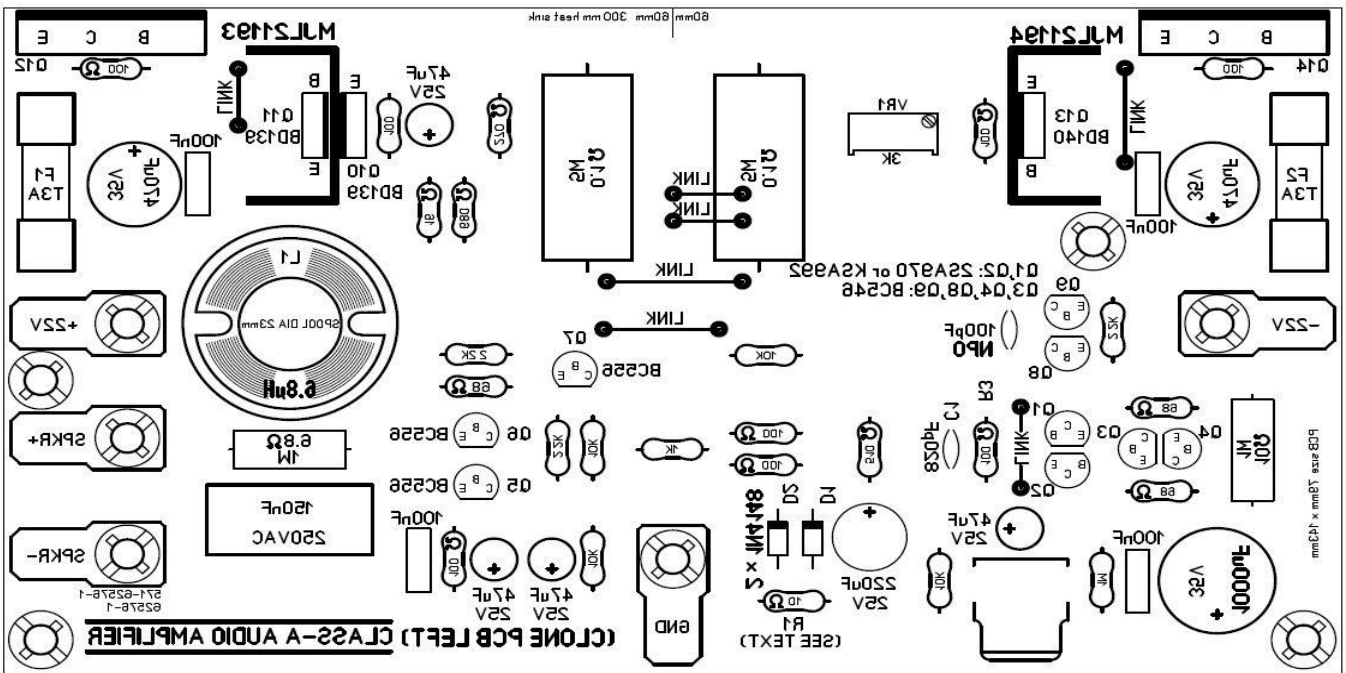
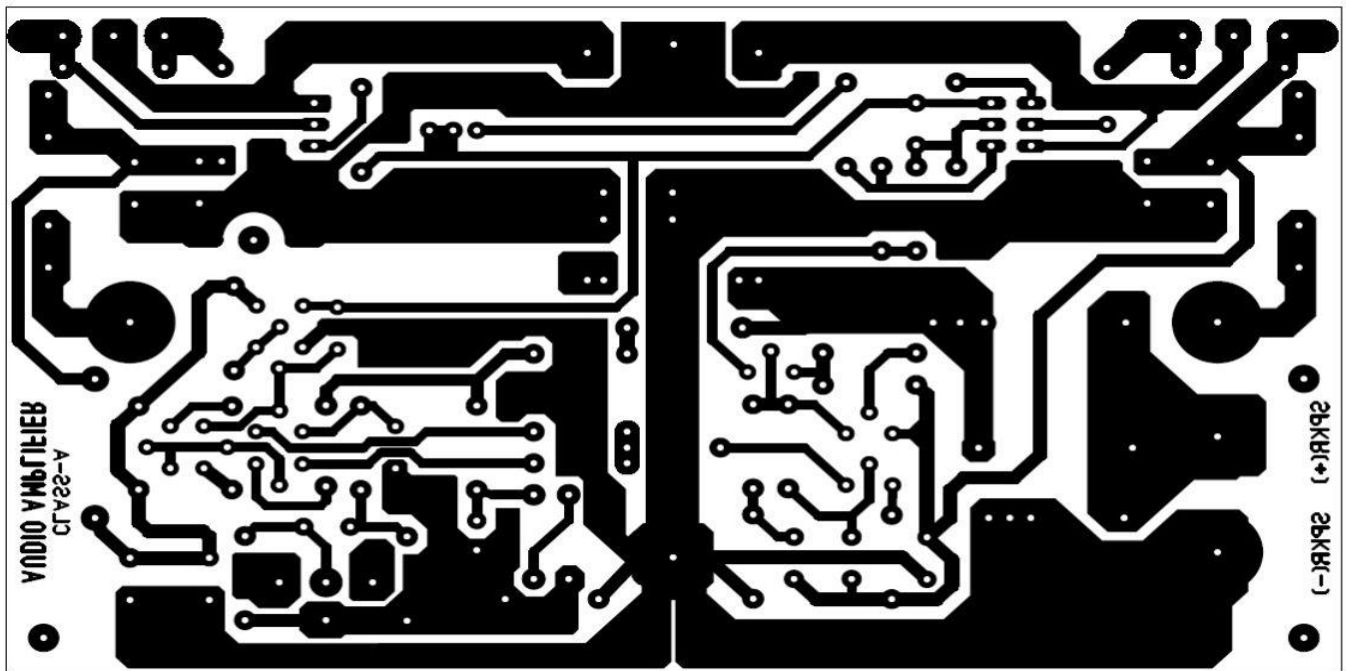


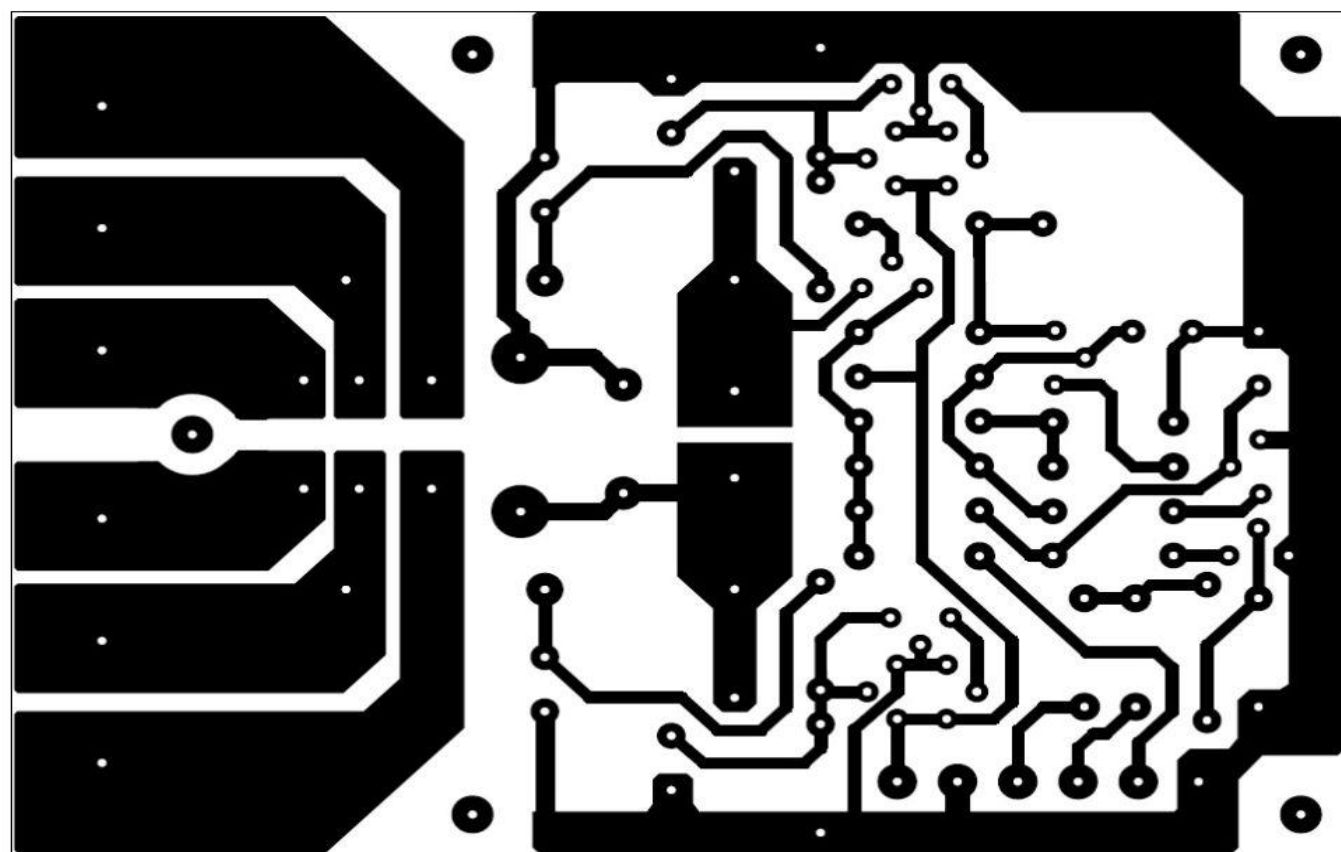
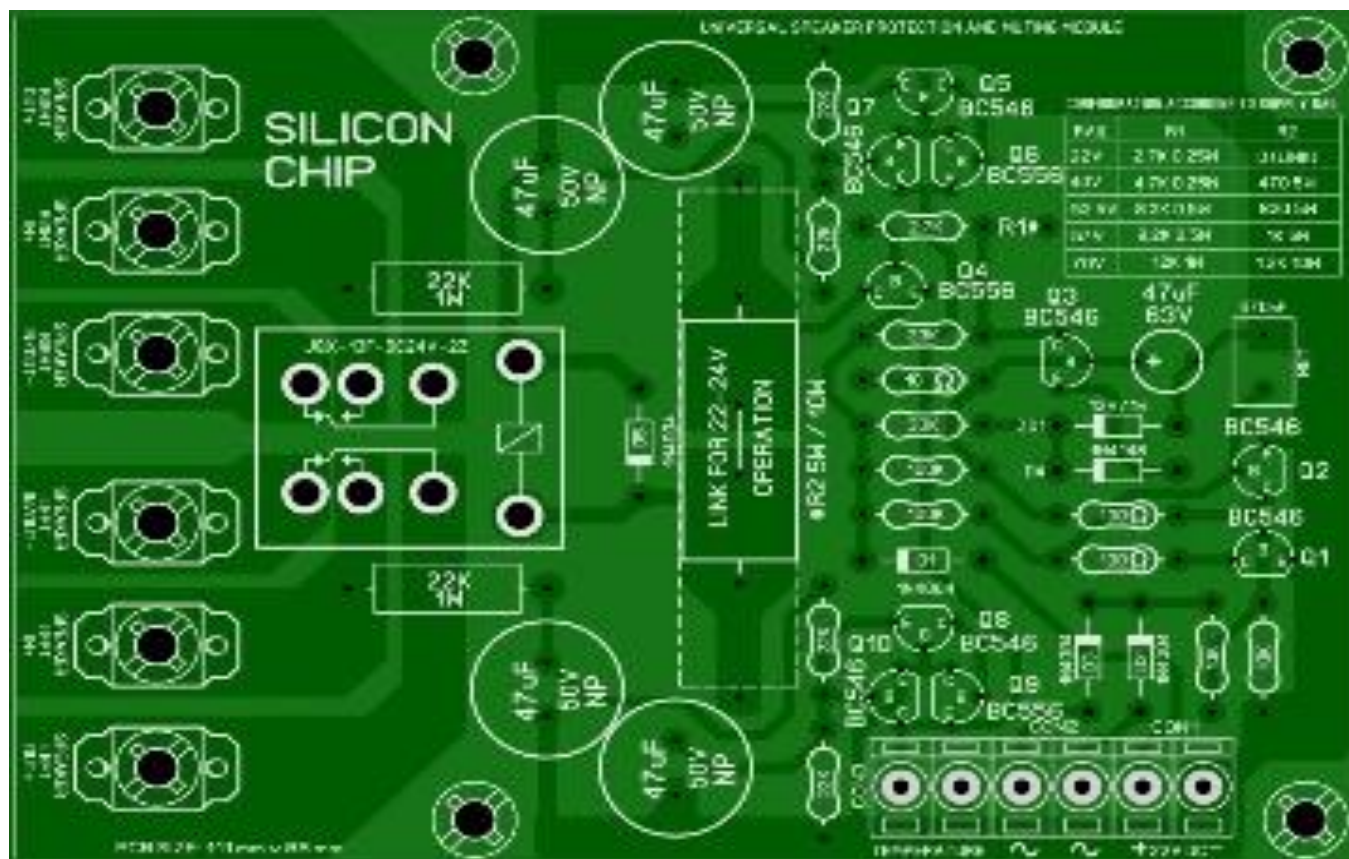
odyo ampli tr 12w 01-01

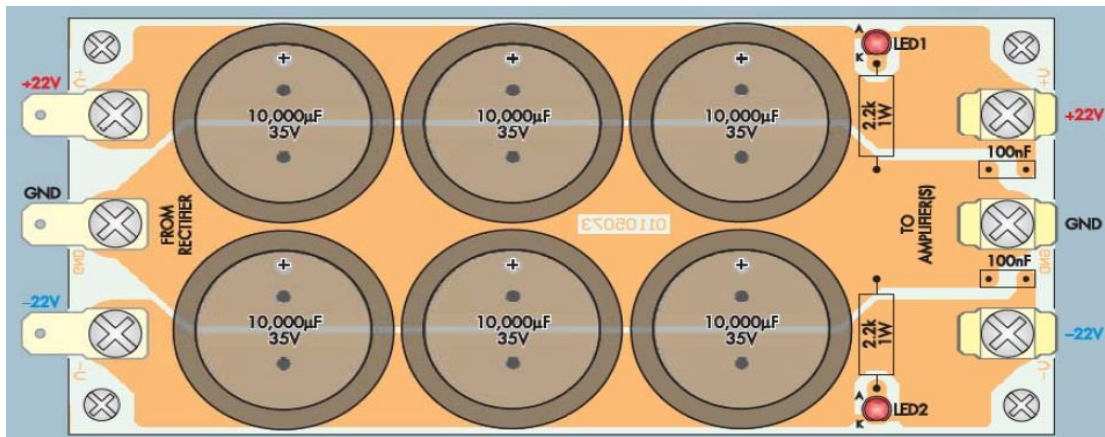
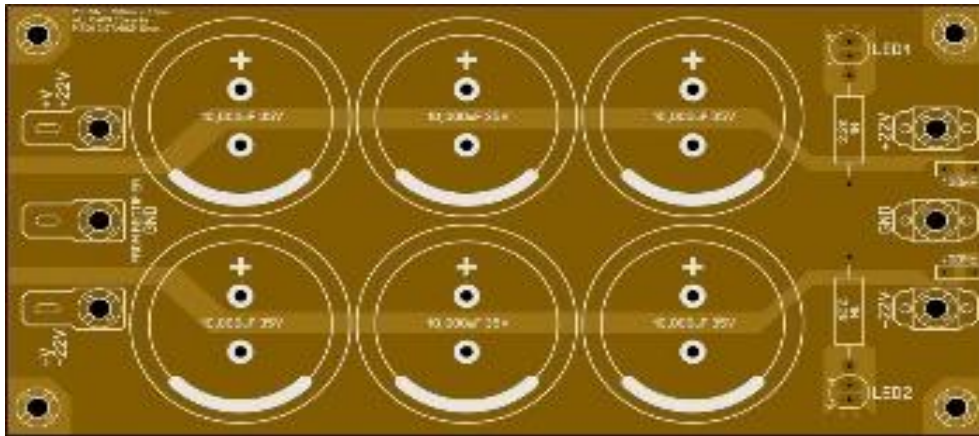


odyo ampli tr 20w 01-01

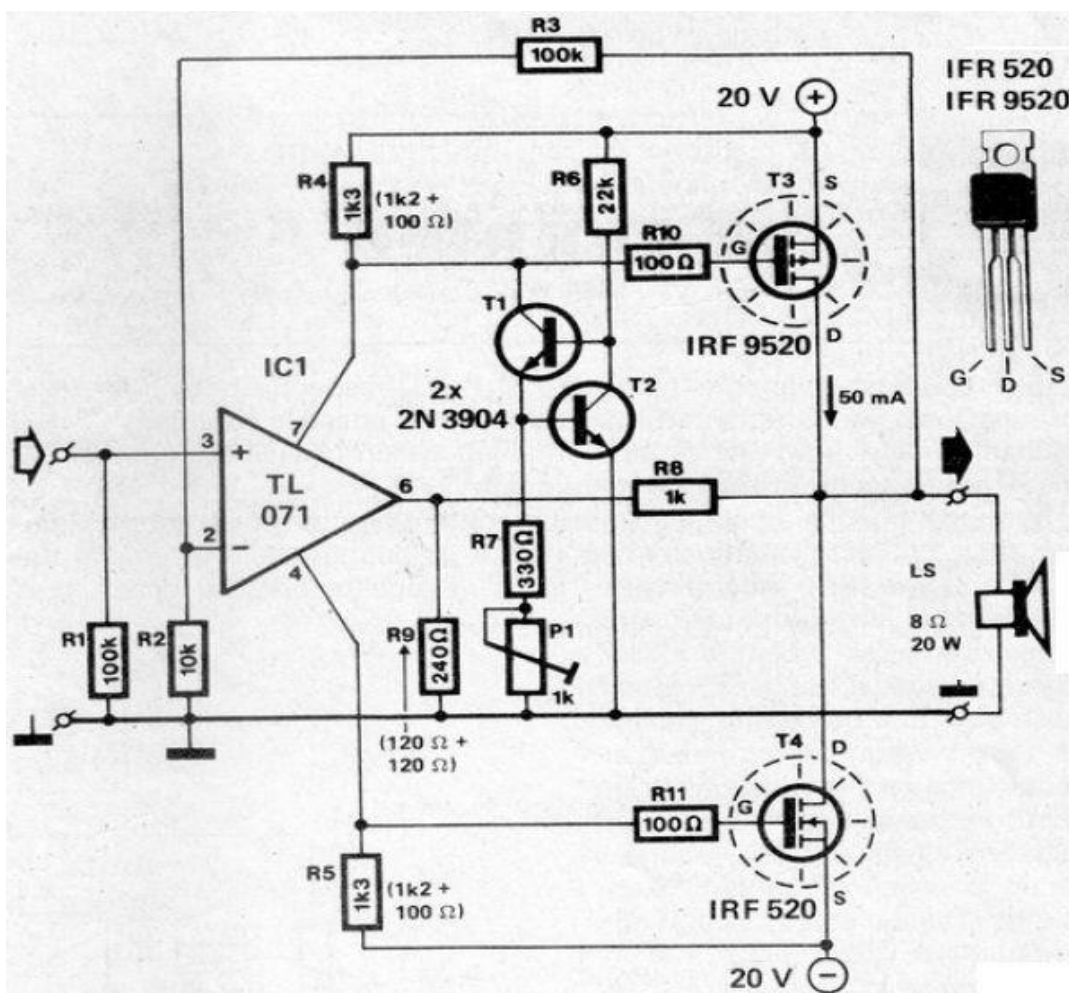




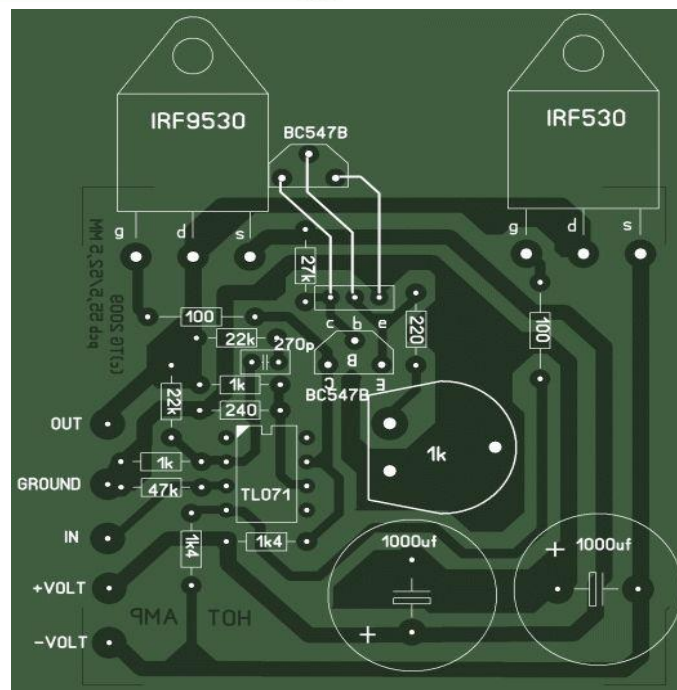
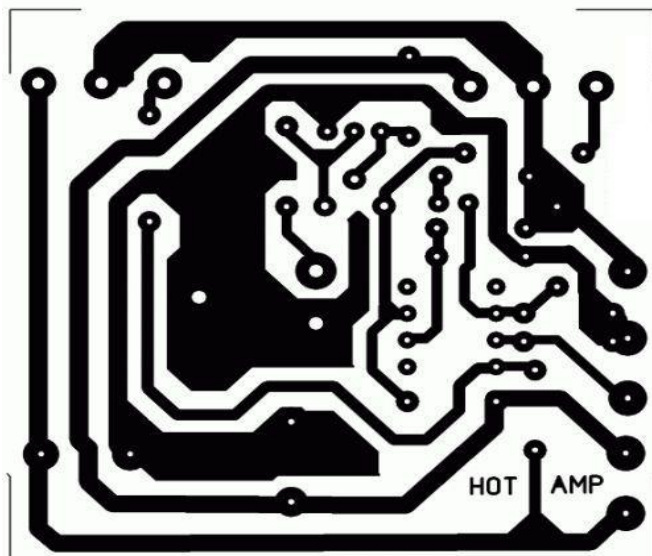
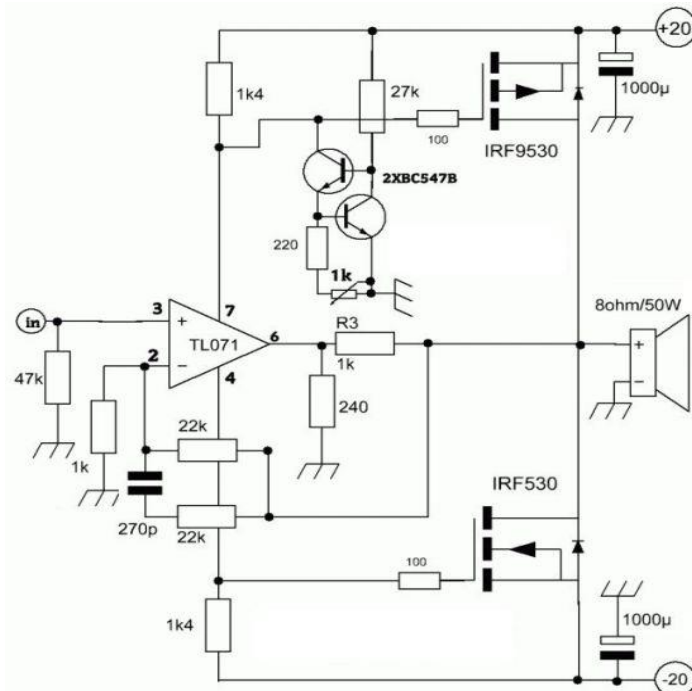




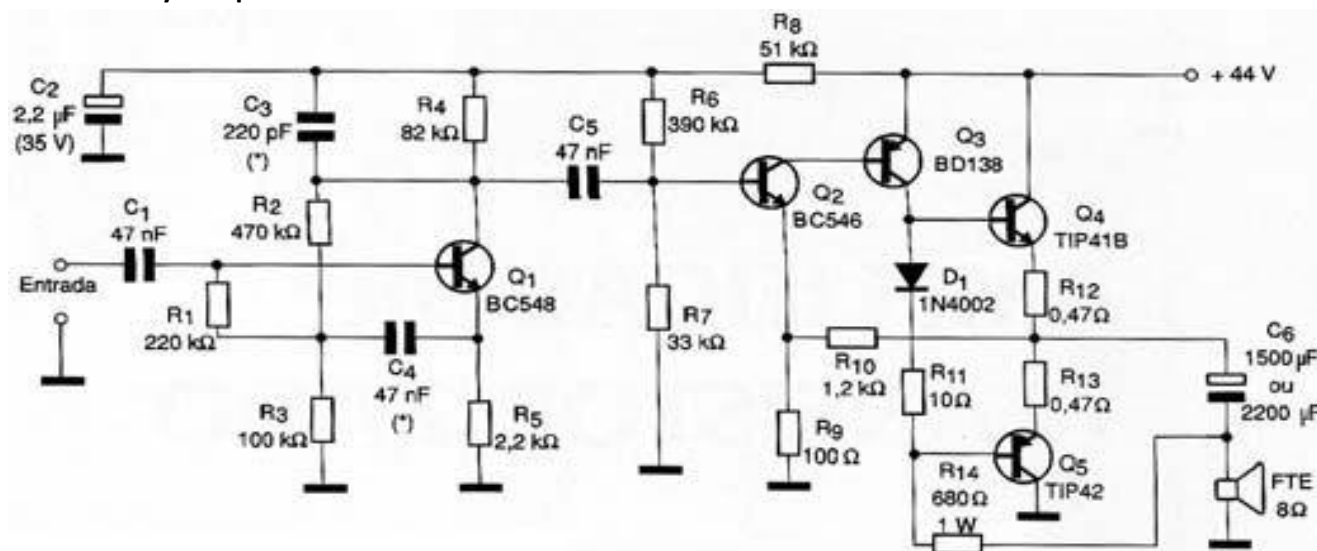
odyo ampli tr 20w 02-01

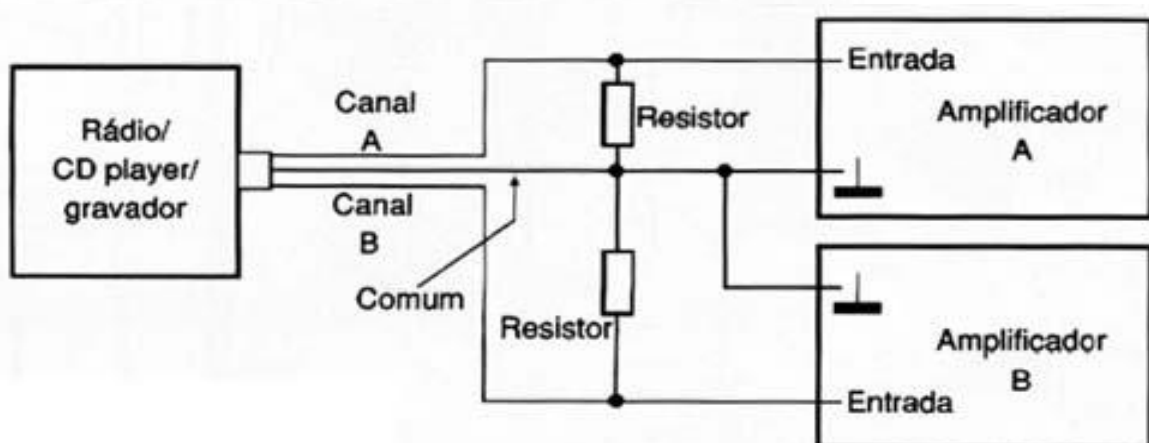
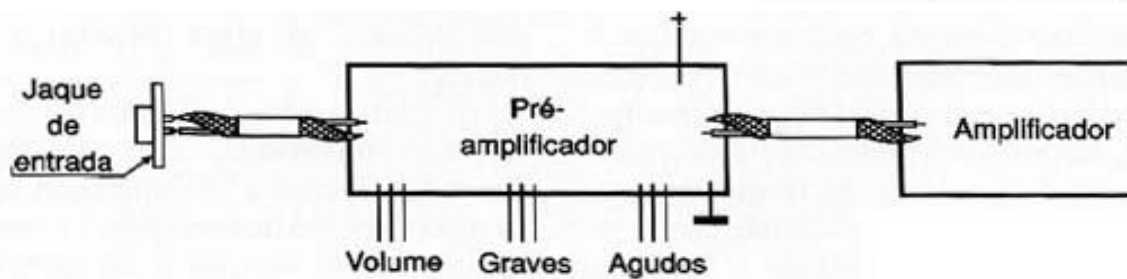
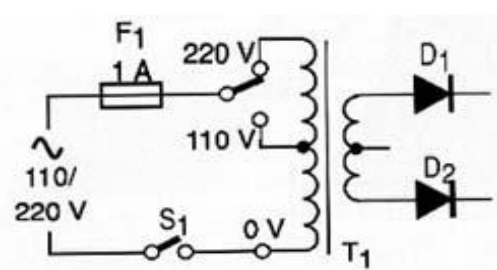
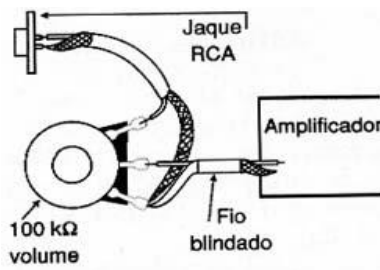
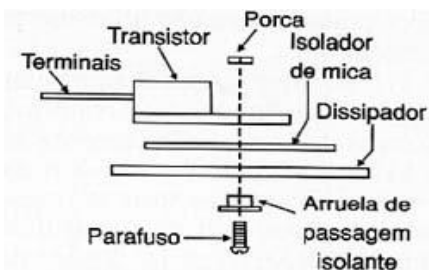
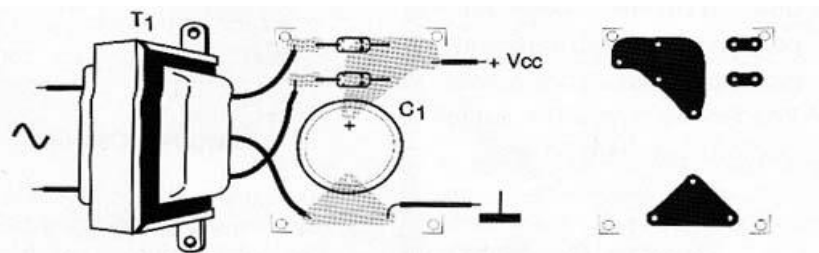
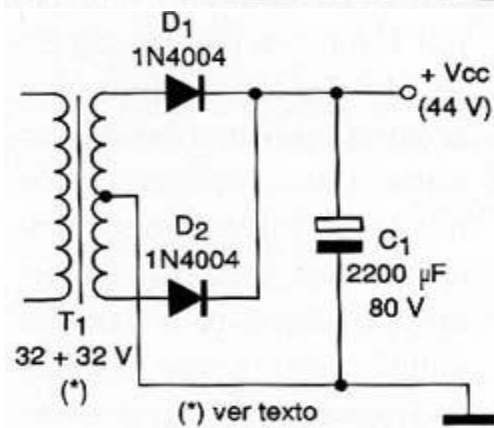
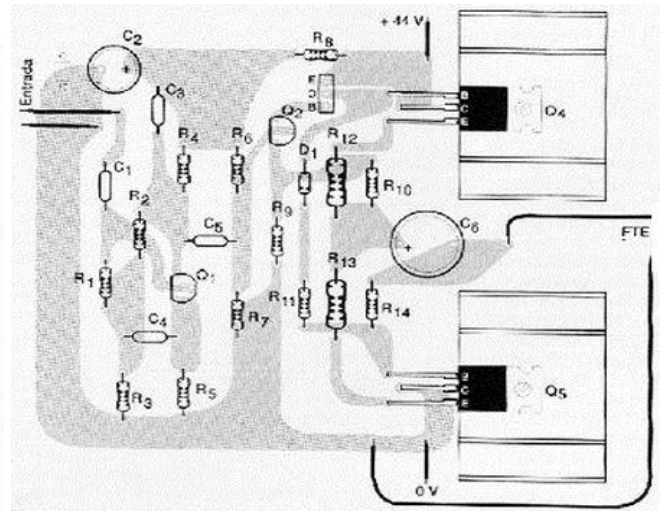


odyo ampli tr 30w 01-01

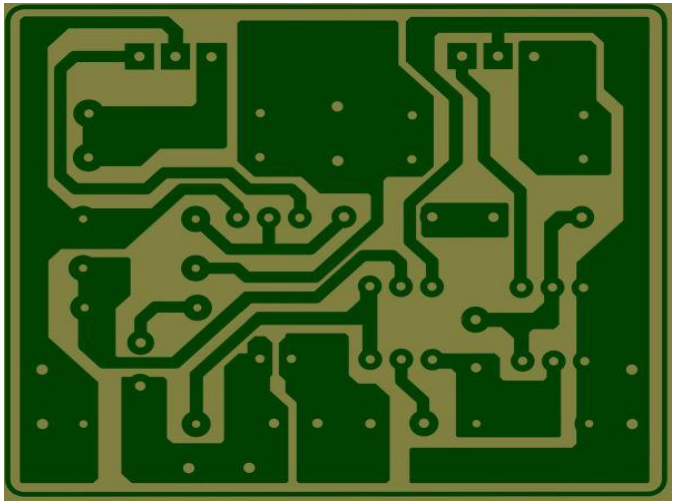
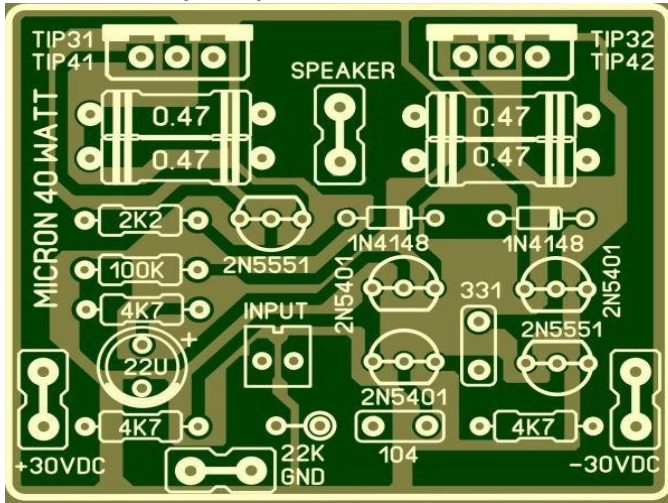


odyo ampli tr 40w 01-01

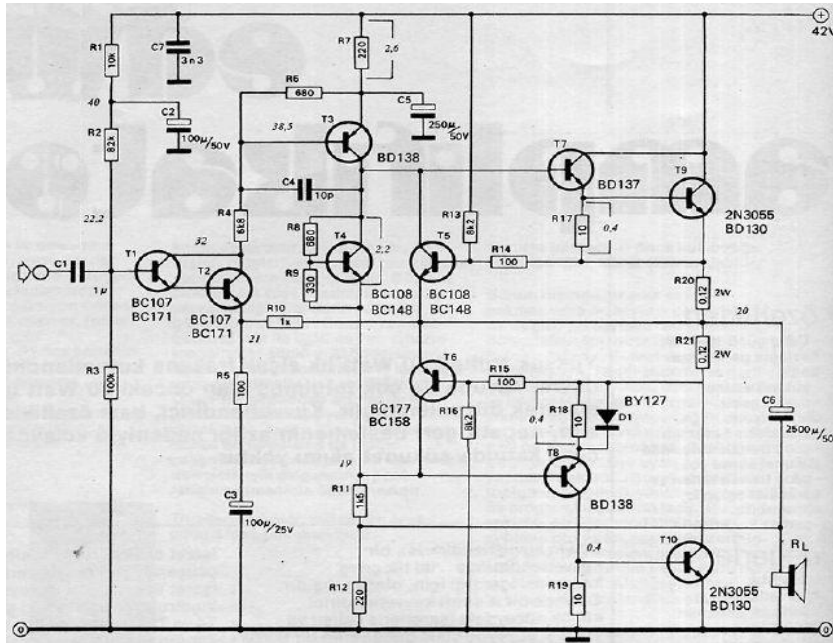




odyo ampli tr 40w 02-01

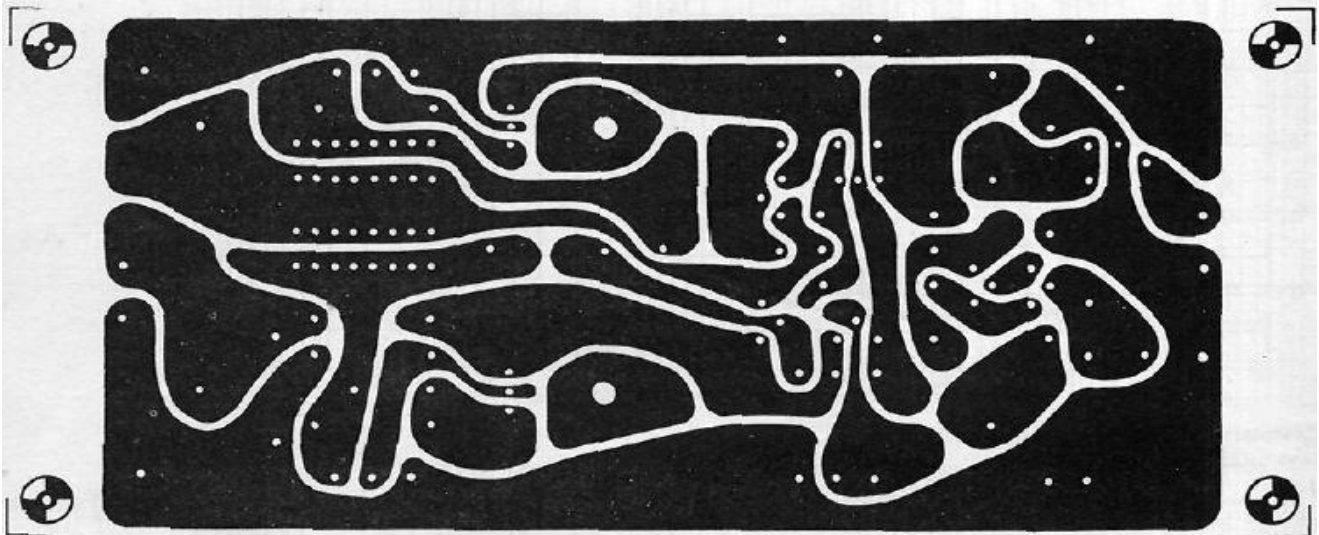


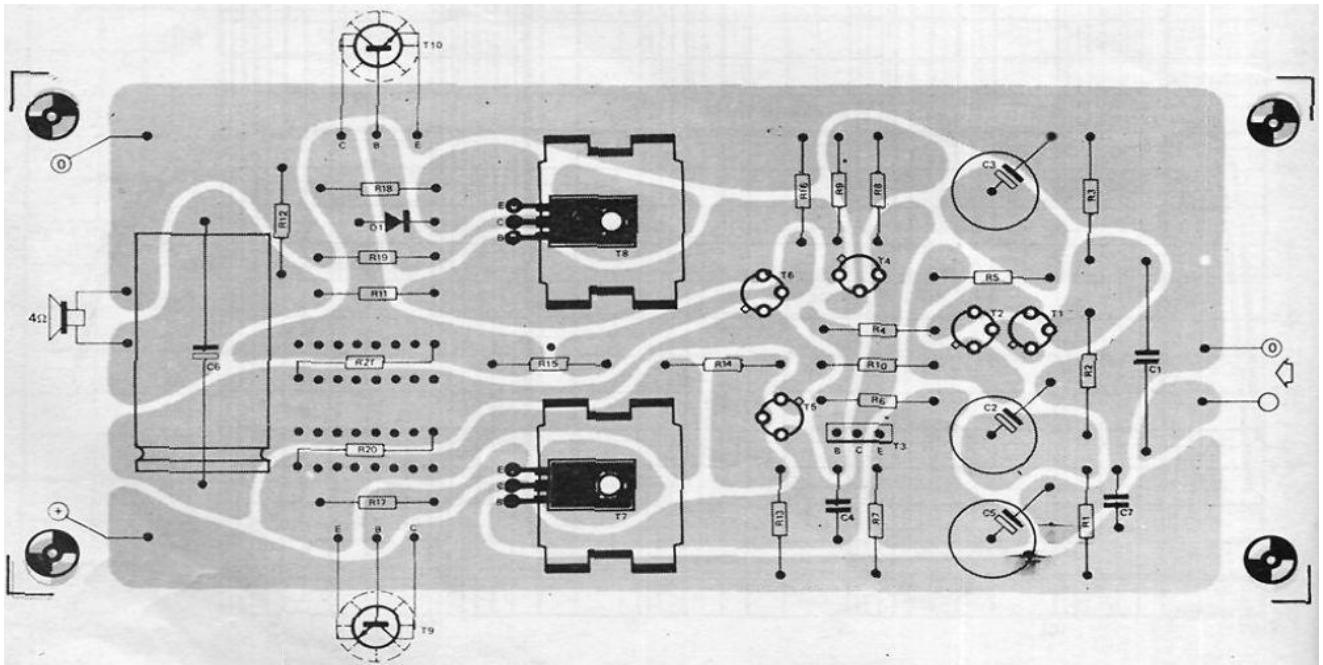
odyo ampli tr 40w 03-01



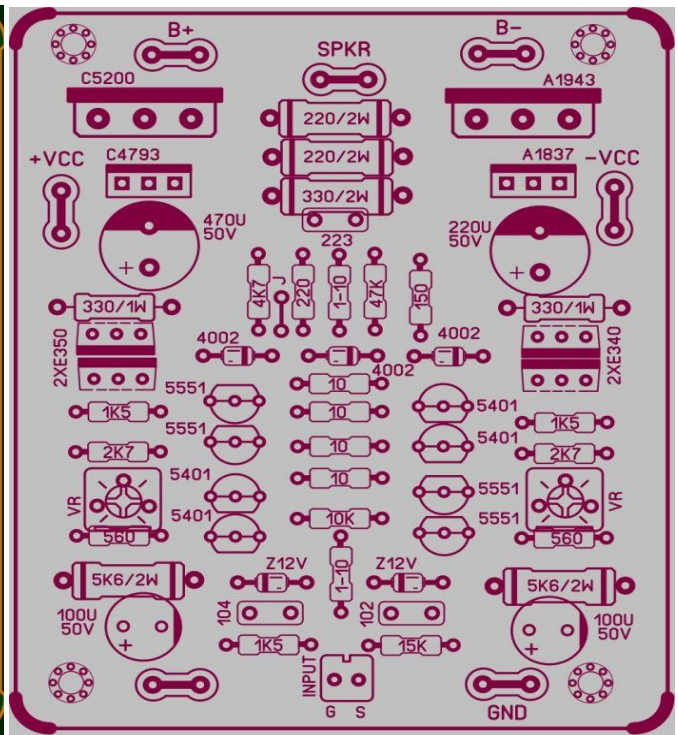
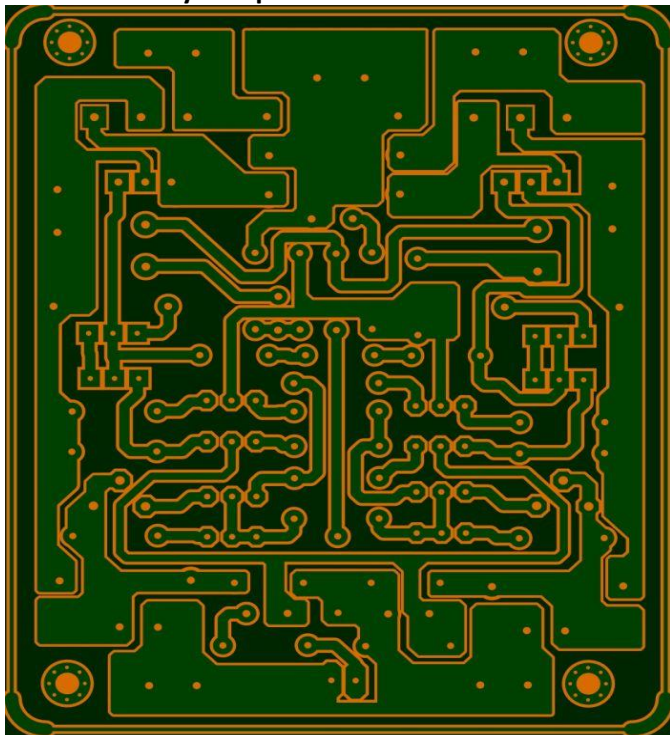
Dirençler:
R1 = 10 k, ¼ W
R2 = 82 k, ¼ W
R3 = 100 k, ¼ W
R4 = 6k8, ¼ W
R5, R14, R15 = 100, ¼ W
R6, R8 = 680, ¼ W
R7, R12 = 220, ¼ W
R9 = 330, ¼ W
R10 = 1 k, ¼ W
R11 = 1k5, ¼ W
R13, R16 = 8k2, ¼ W
R17, R18, R19 = 10, ¼ W
R20, R21 = 0.12. 2 W

C1 = 1 µ
C2 = 100 µ, 50 V
C3 = 100 µ, 25 V
C4 = 10 p seramik
C5 = 250 µ, 50 V
C6 = 2500 µ, 50 V
C7 = 3n3
T1, T2 = BC 107, BC 171
T4, T5 = BC 108, BC 148
T3, T8 = BD 138
T6 = BC 178, BC 158
T7 = BD 137
T9, T10 = 2N3055, BD 130
D1 = RV 127

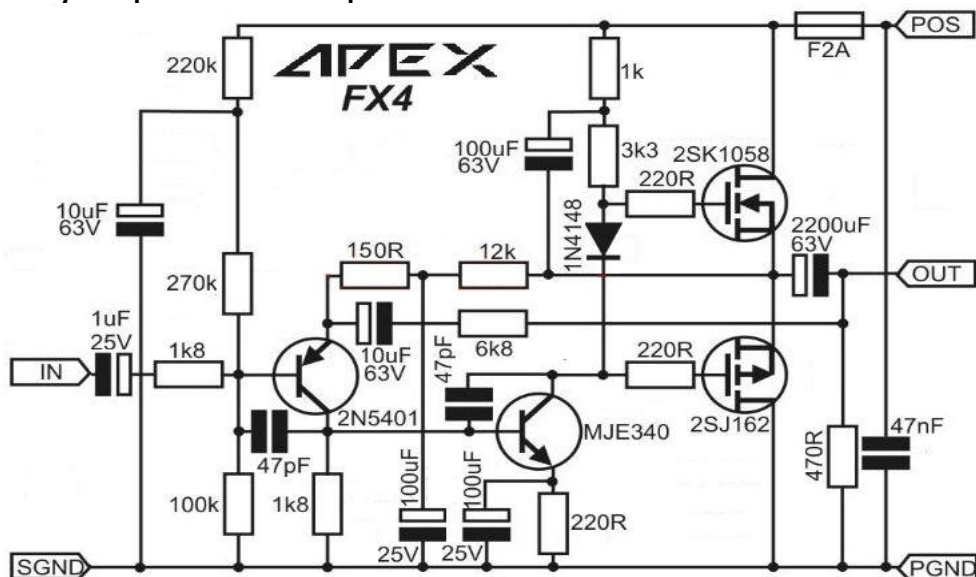


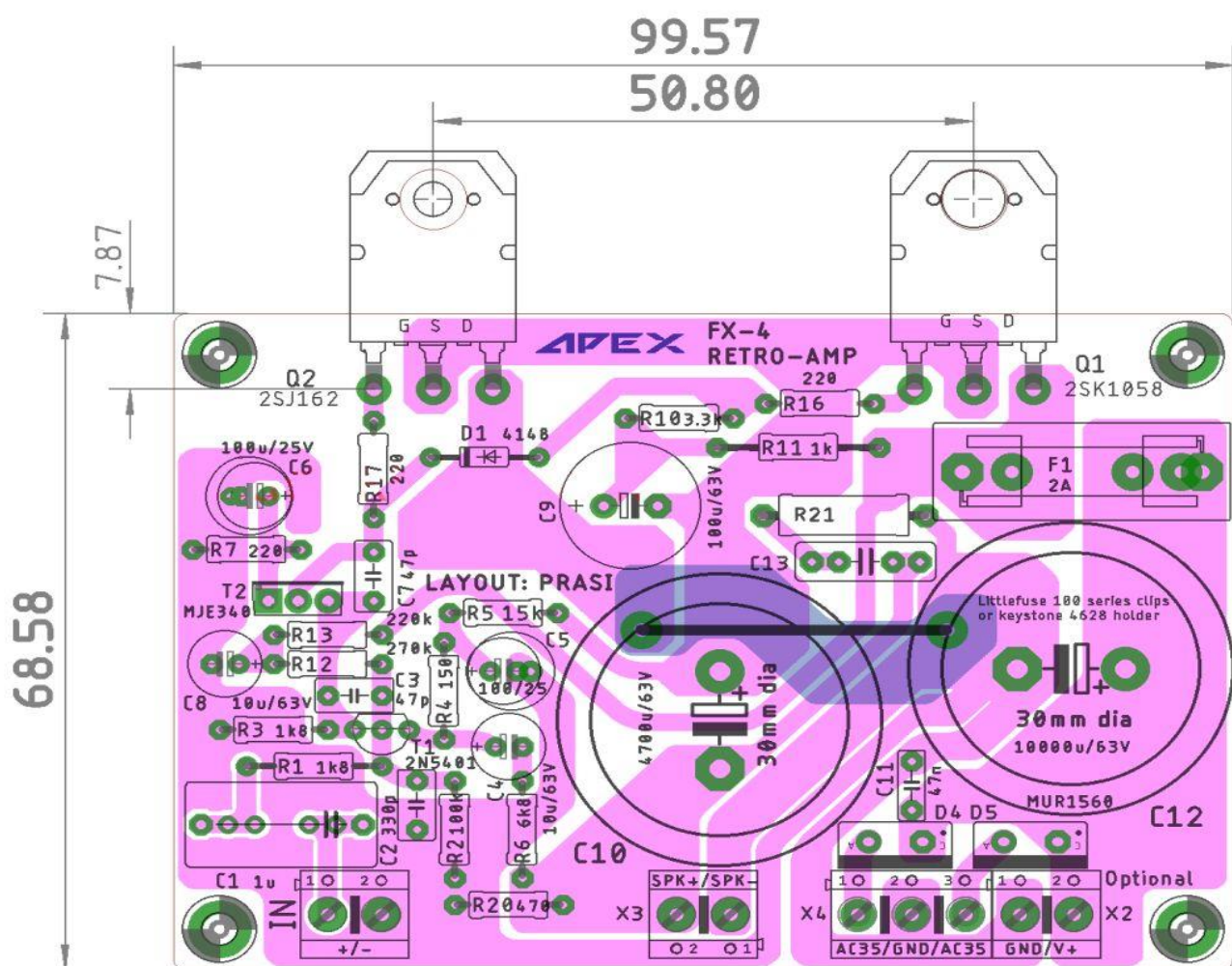
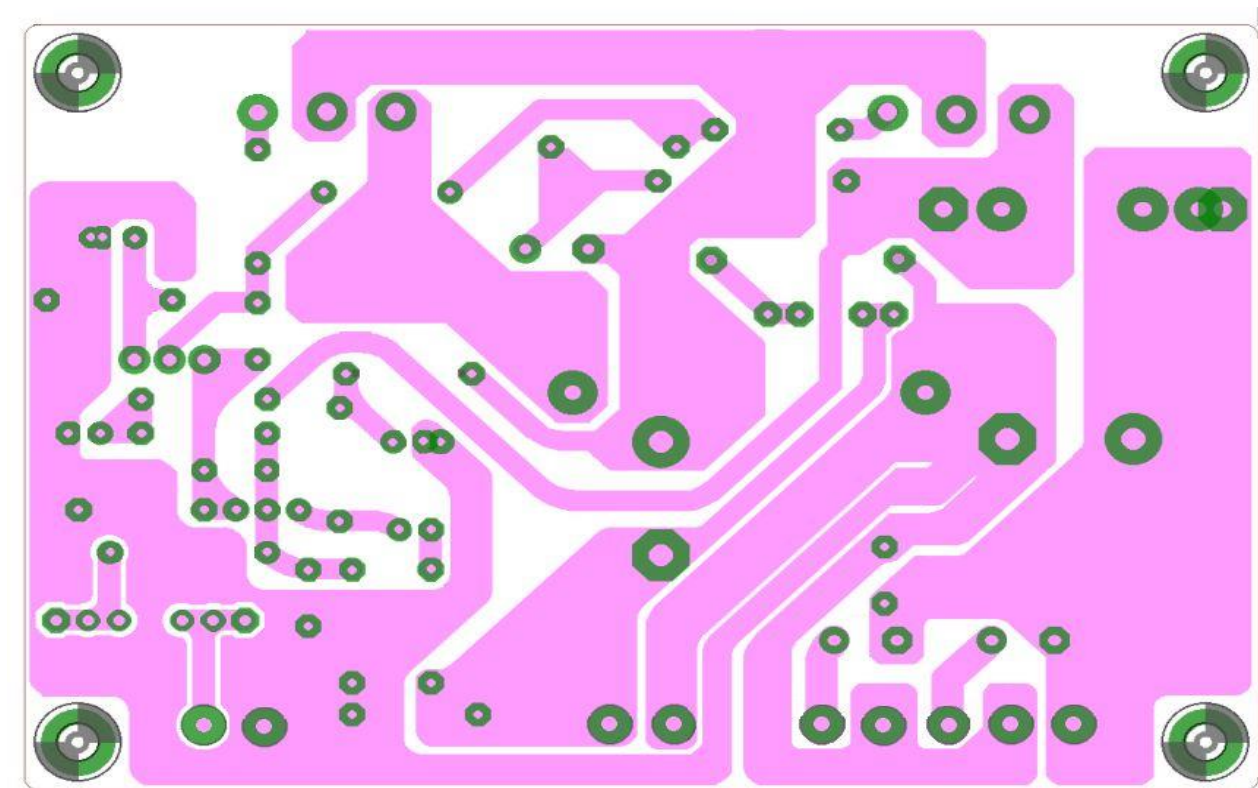


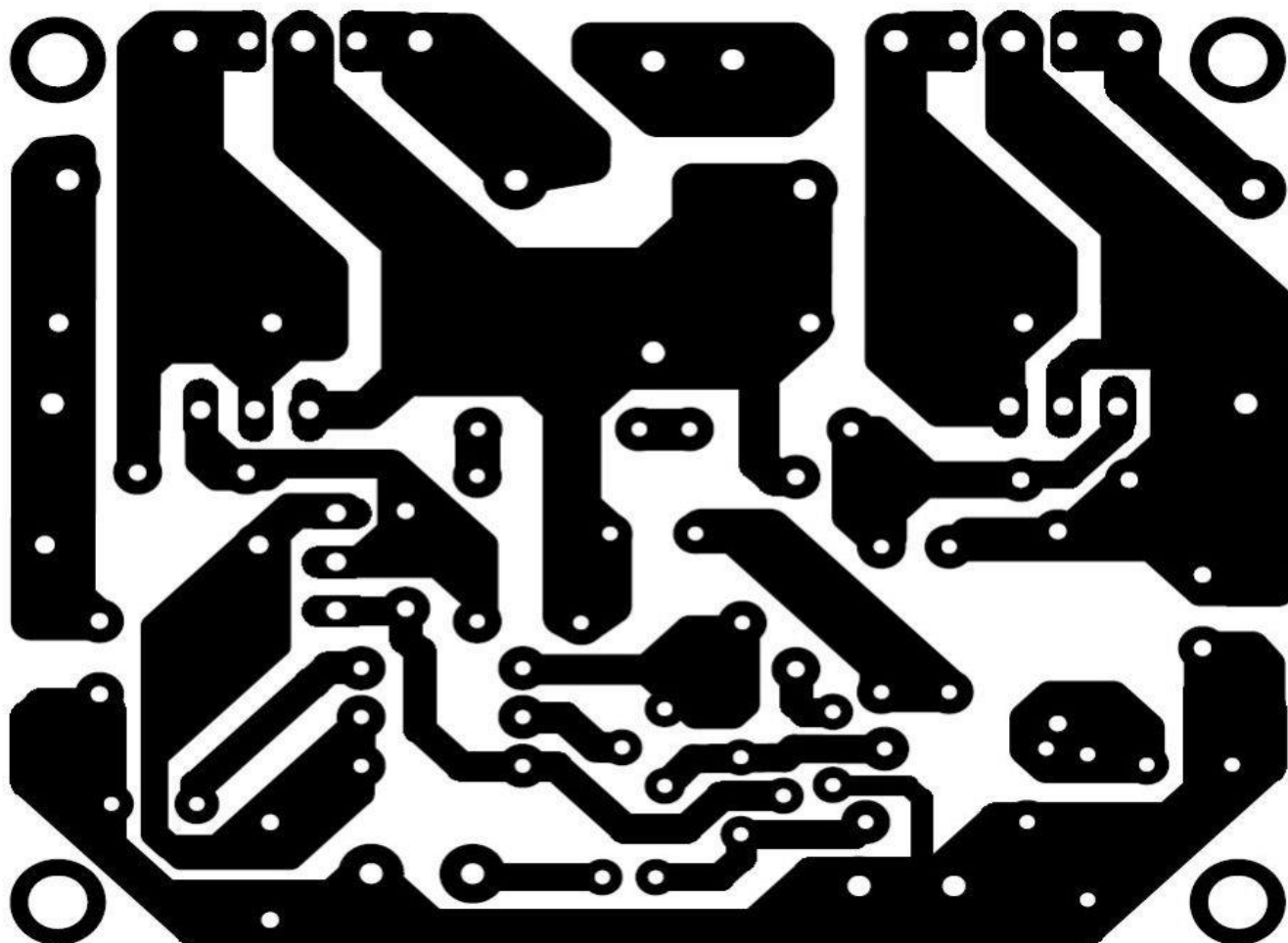
odyo ampli tr 40w 04-01



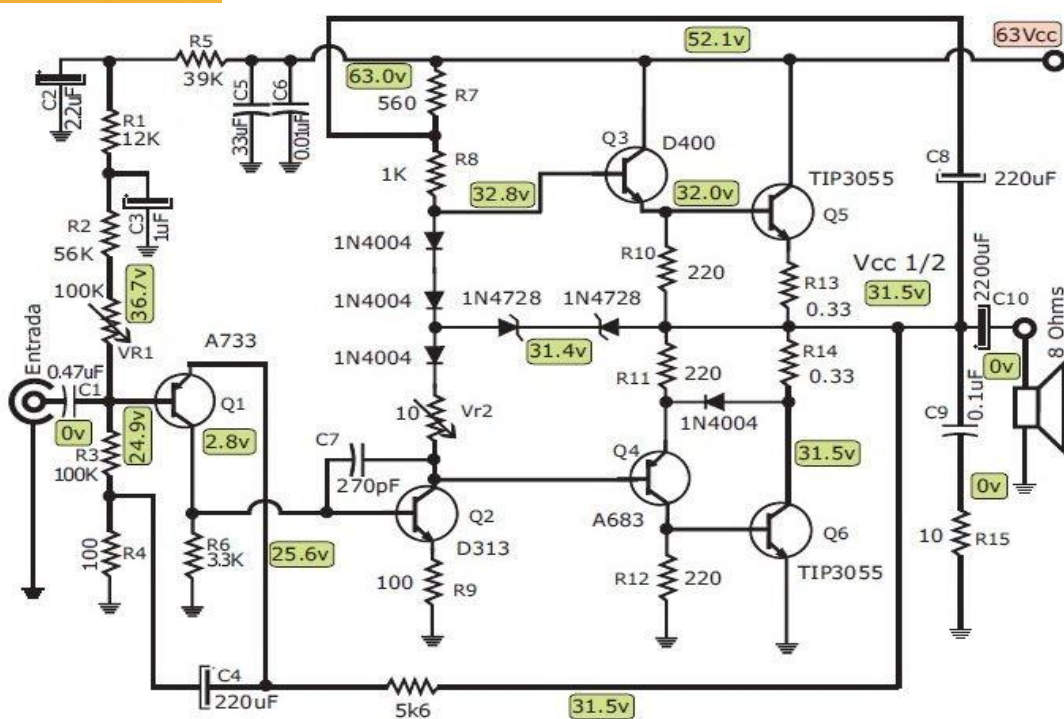
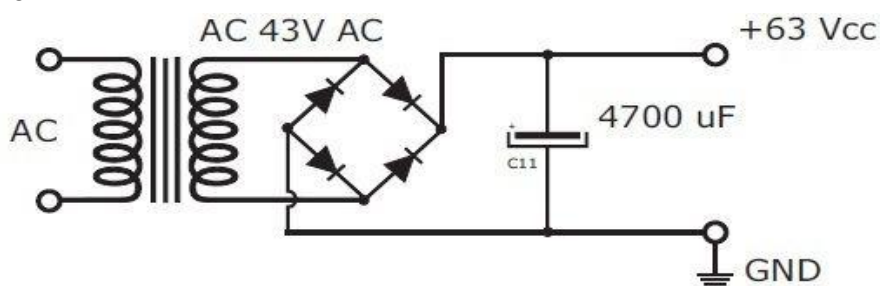
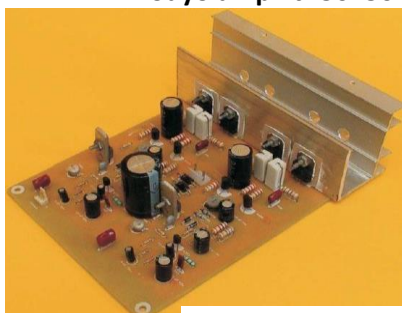
odyo ampli tr 40w 05-01 apex fx4

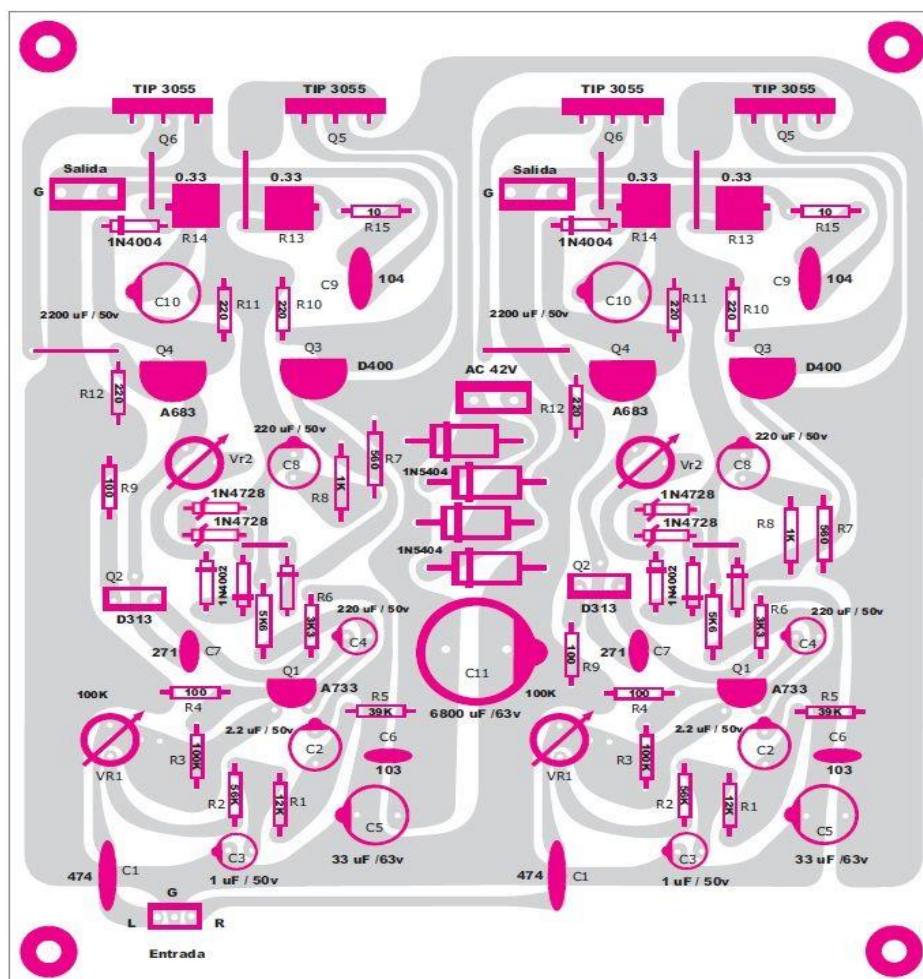
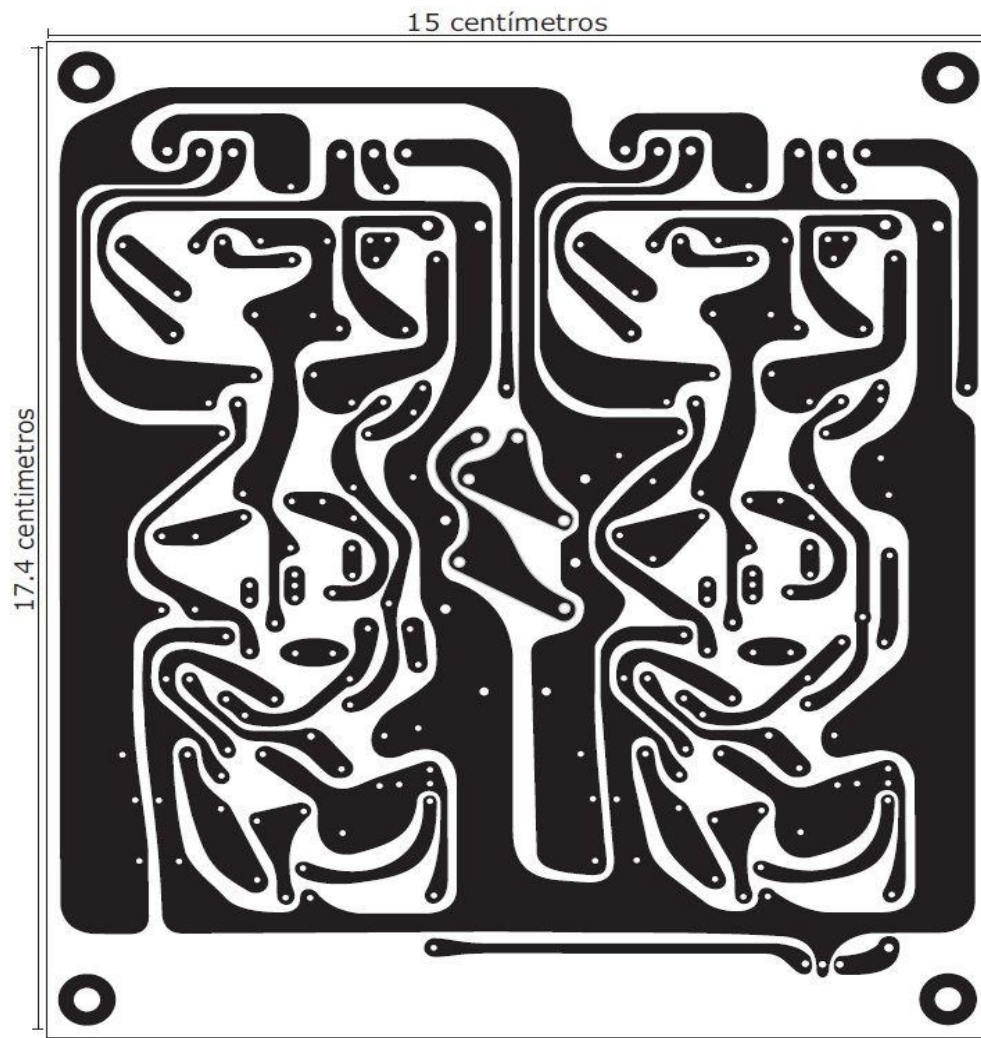




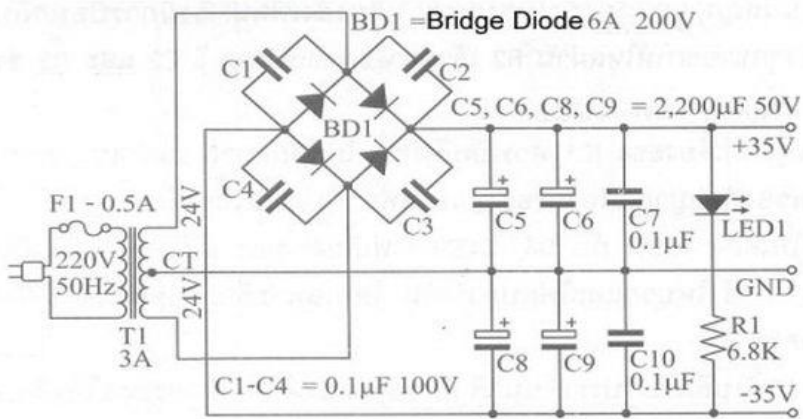
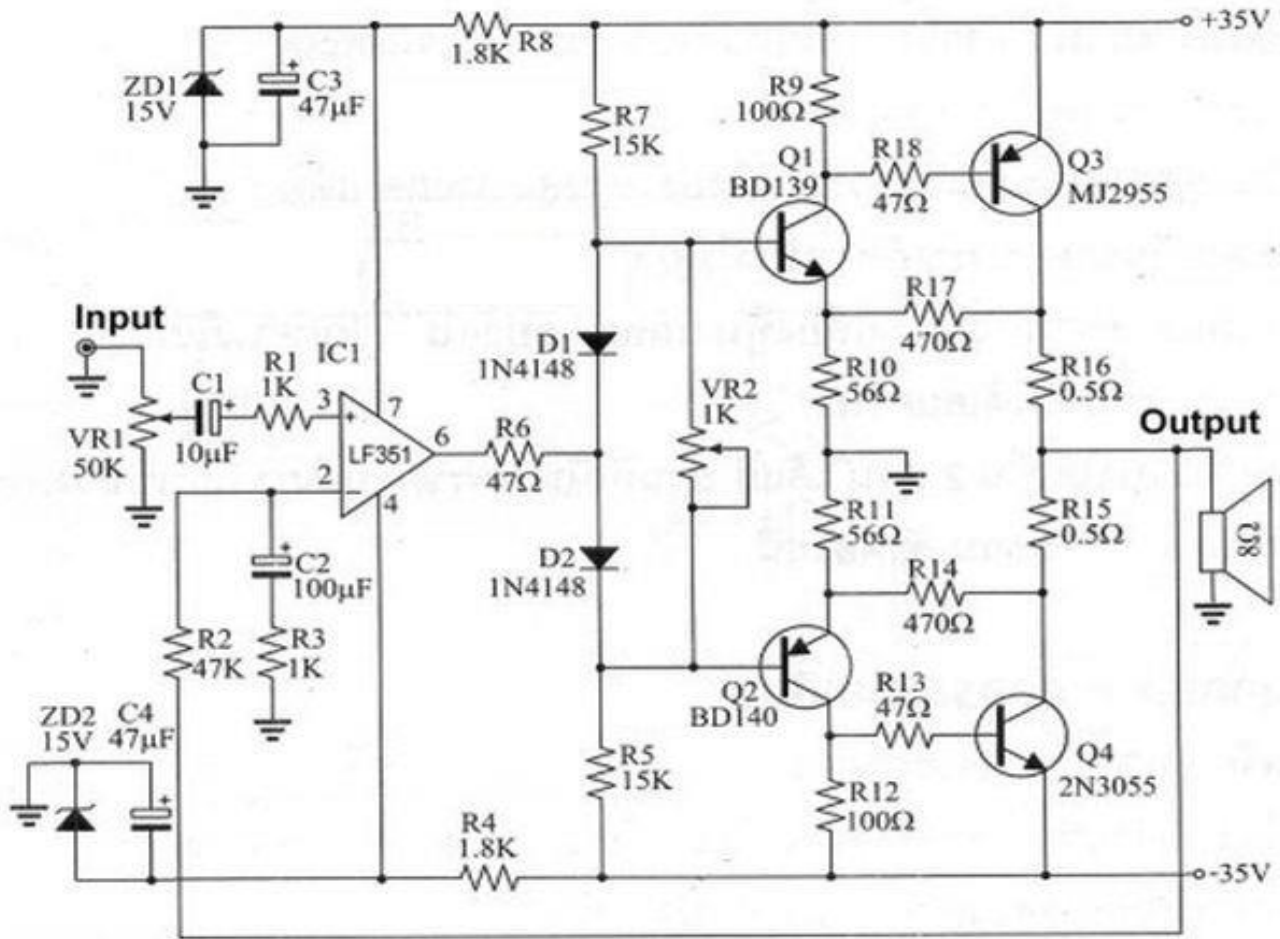


odyo ampli tr 50+50w 01-01





odyo ampli tr 50w 01-01 lf351-2n3055-mj2955-600x412-1



The Electronic parts.

IC1_____LF351,TL071,LM741

Q1_____BD139

Q2_____BD140

Q3_____2N3055

Q4_____MJ2955

ZD1,ZD2___15V 0.5W Zener diode

VR1_____50K Potentiometer

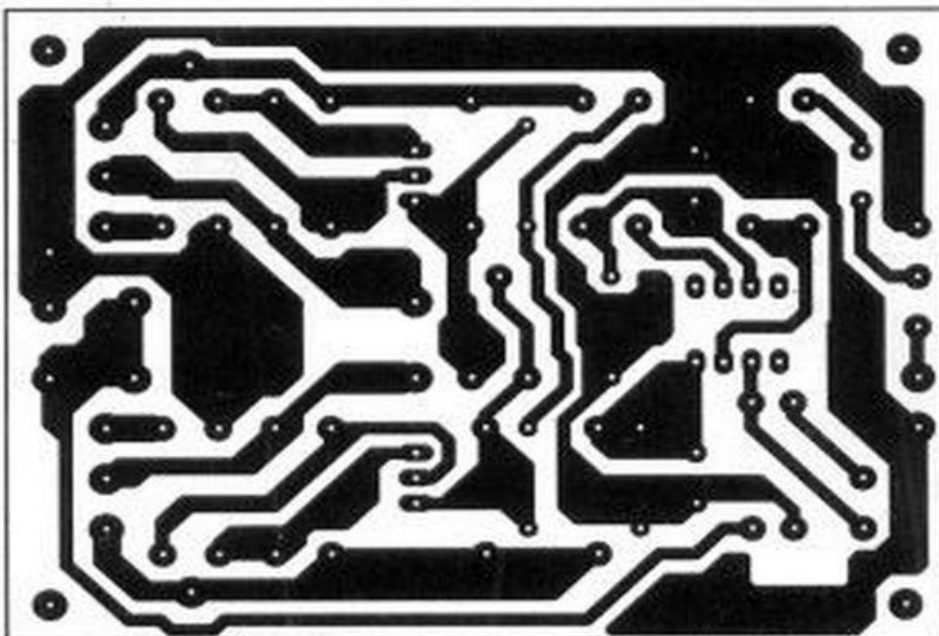
VR2_____1K pot

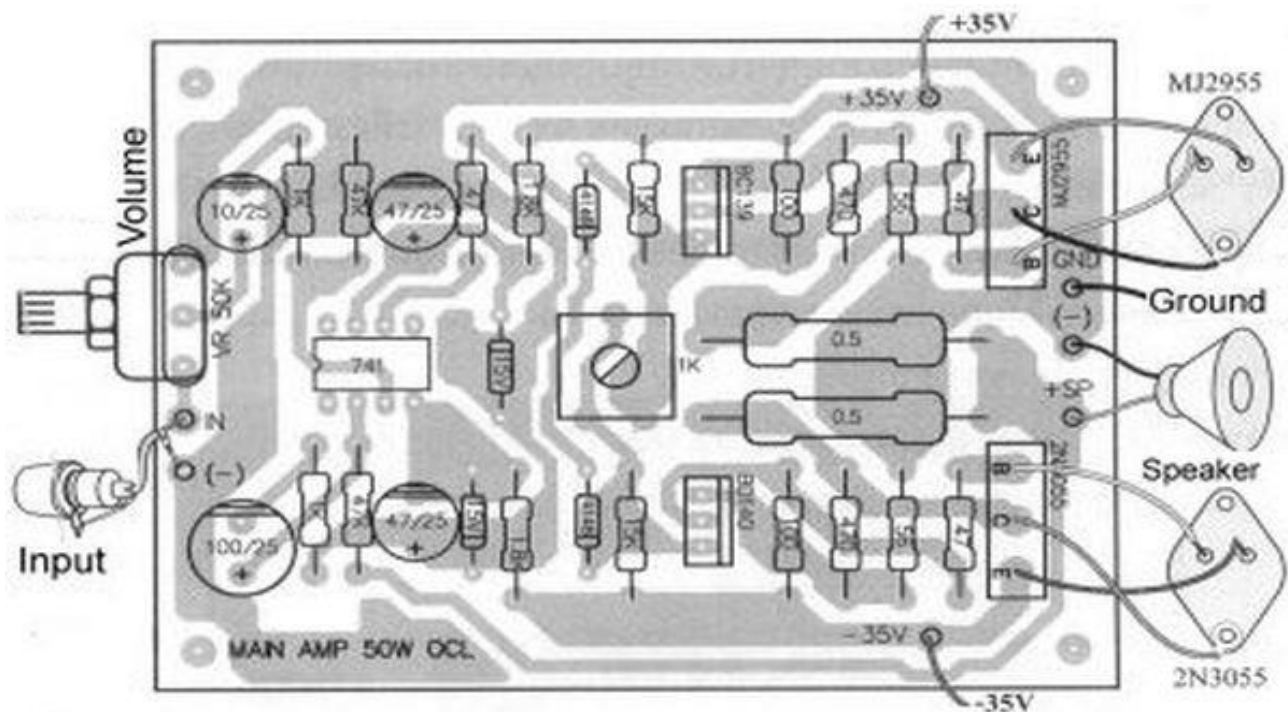
C1,C9___10uF 16V Electrolytic capacitors

C3,C4__47uF 25V Electrolytic capacitors

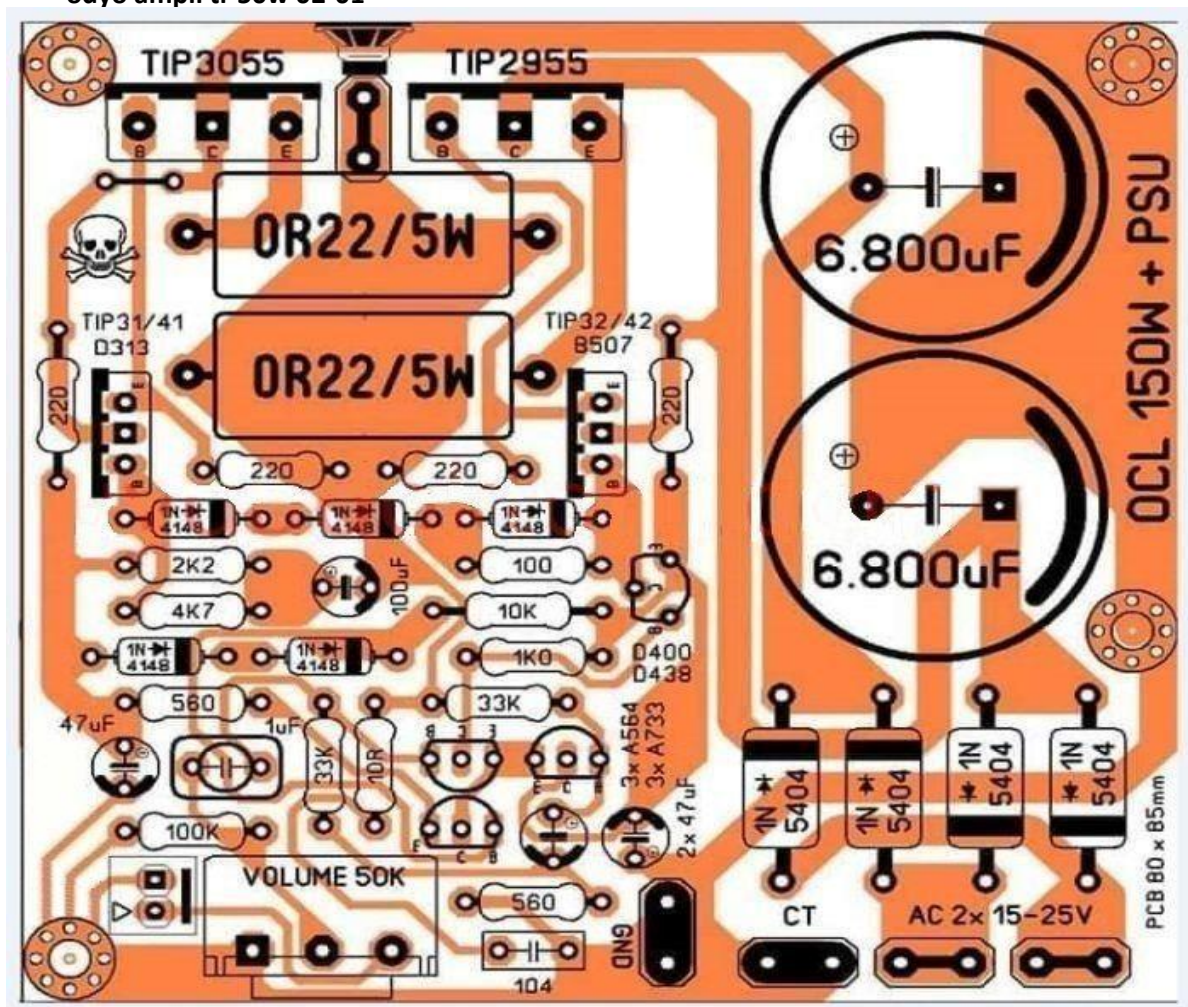
C2_____100uF 16V Electrolytic capacitors

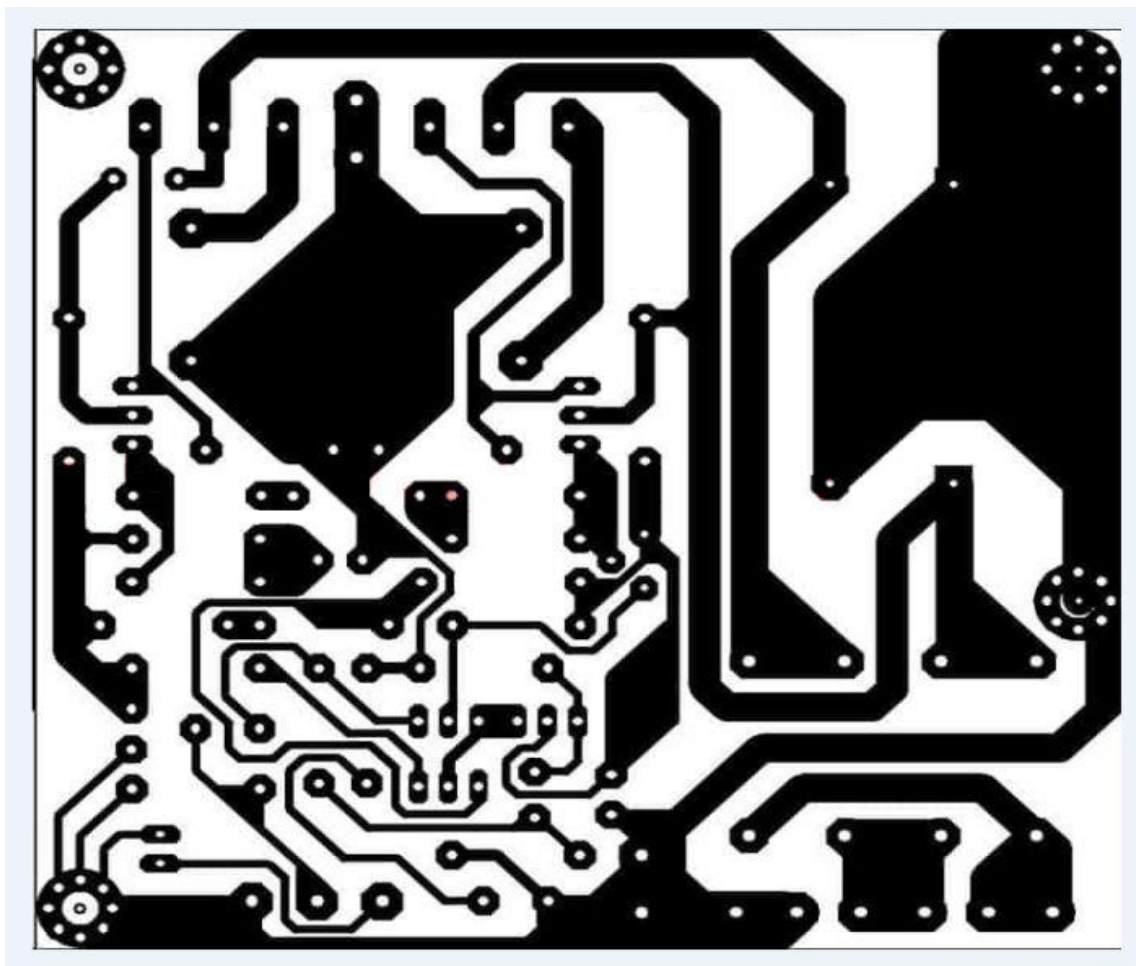
D1,D2____1N4148 Diode



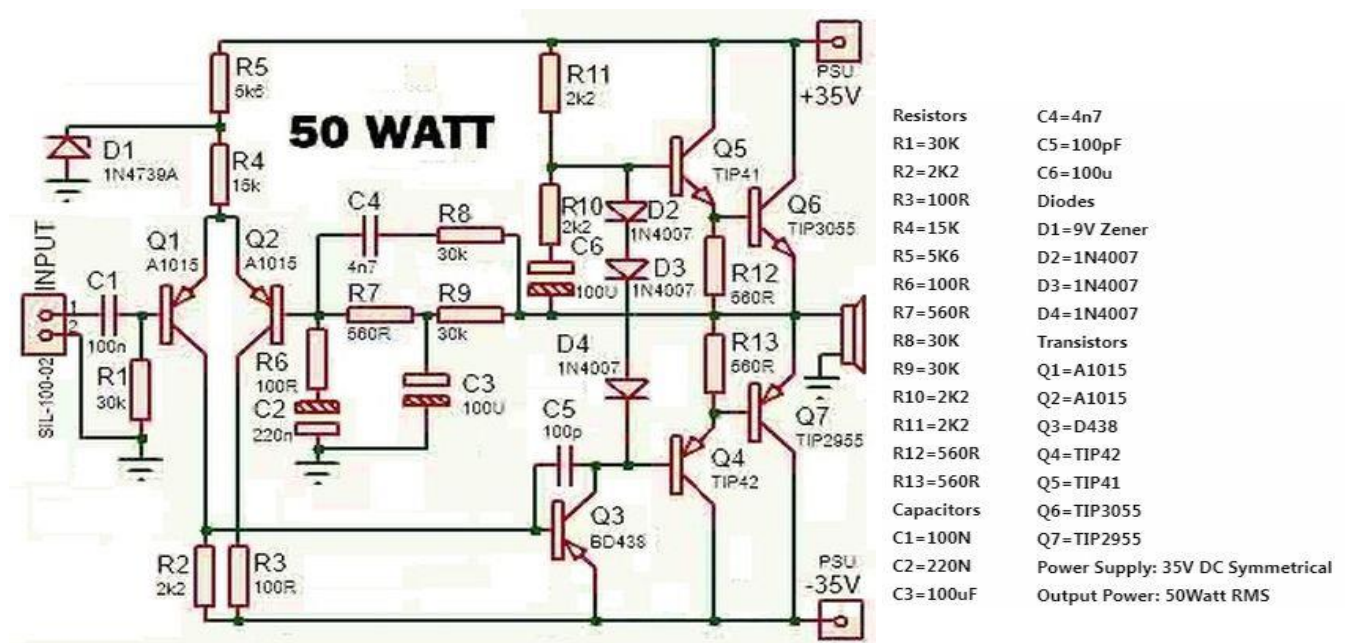


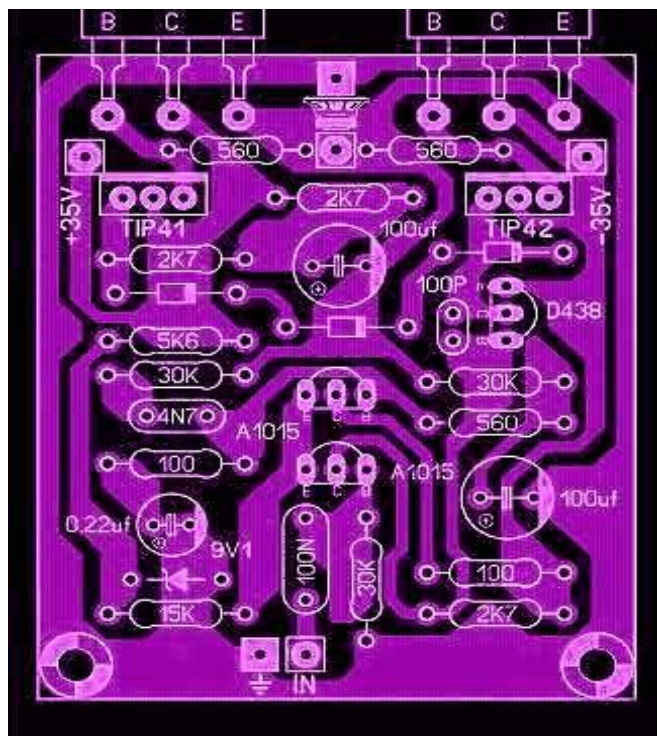
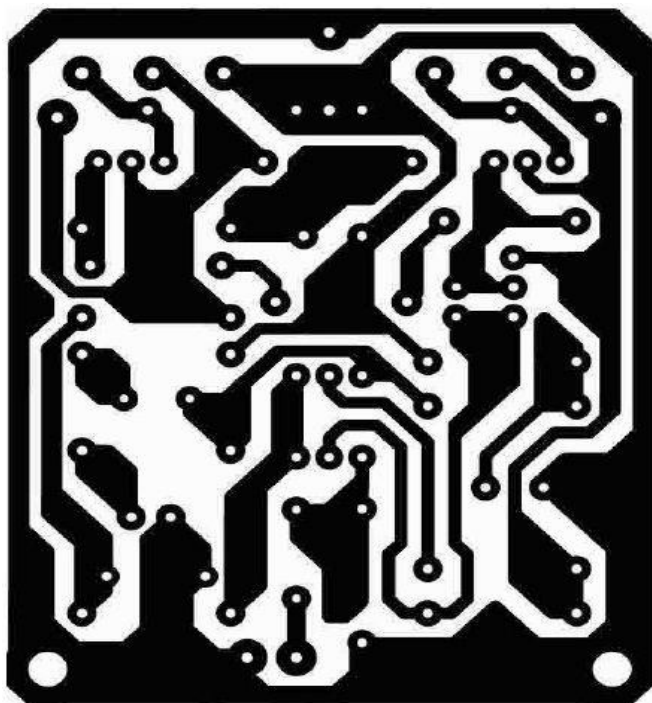
odyo ampli tr 50w 02-01



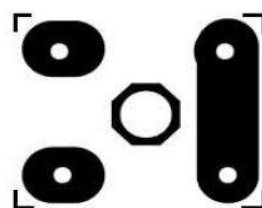
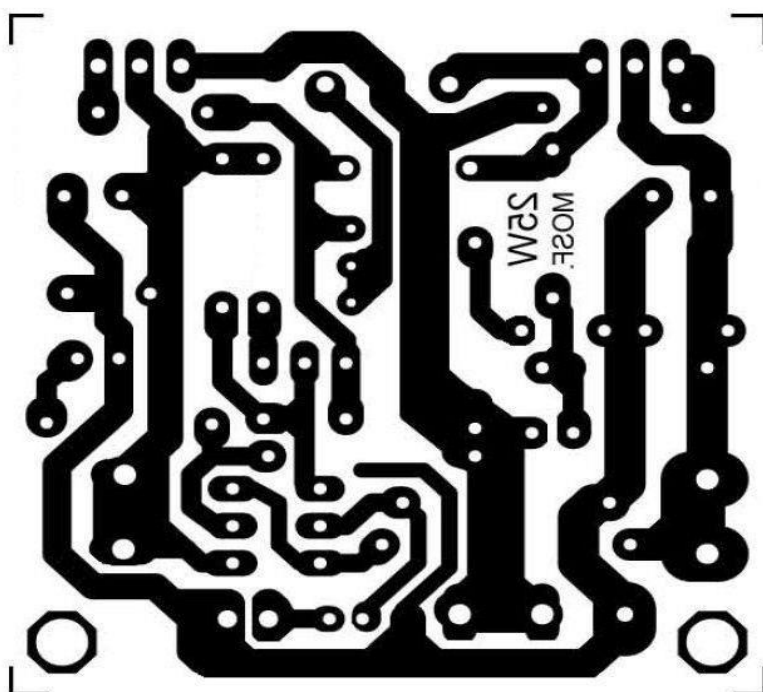
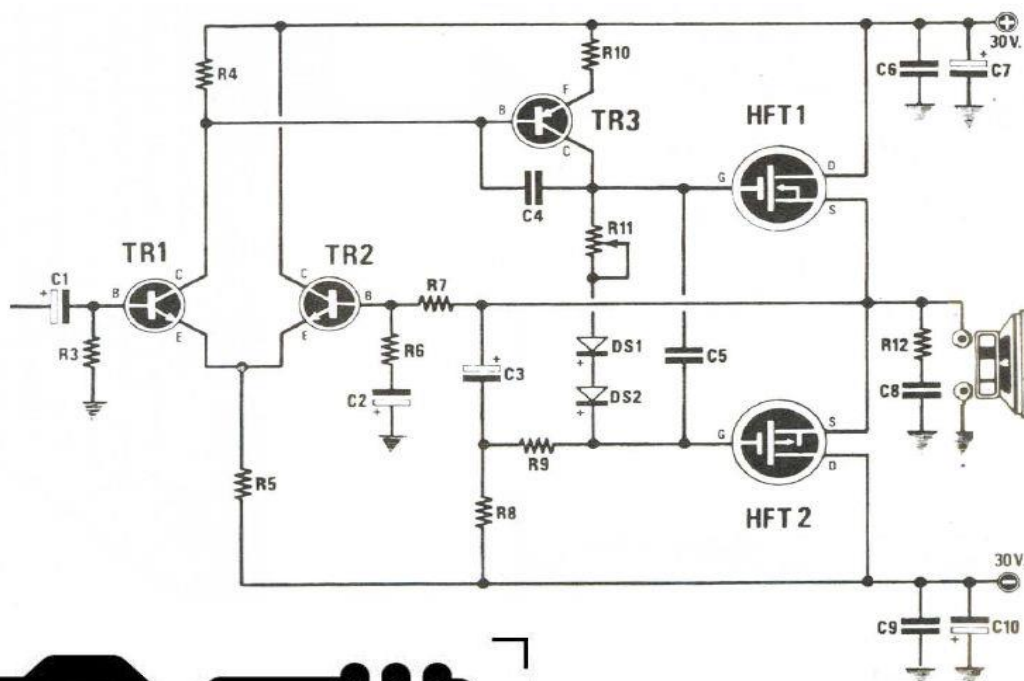


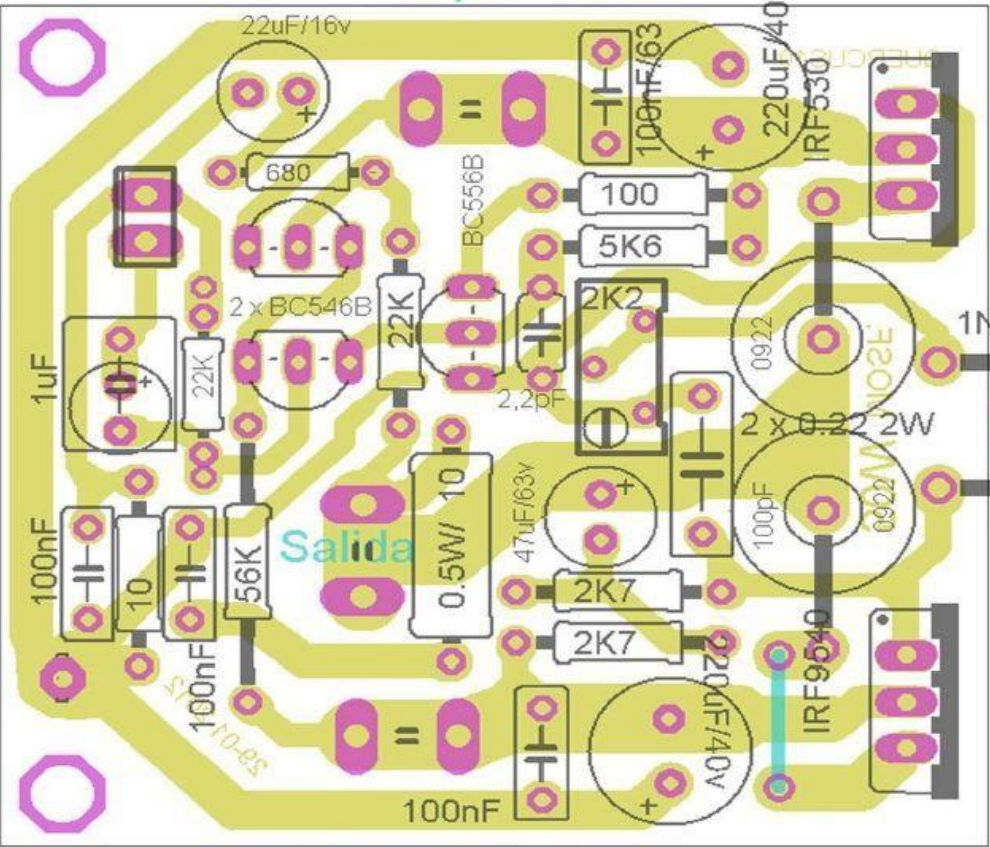
odyo ampli tr 50w 03-01



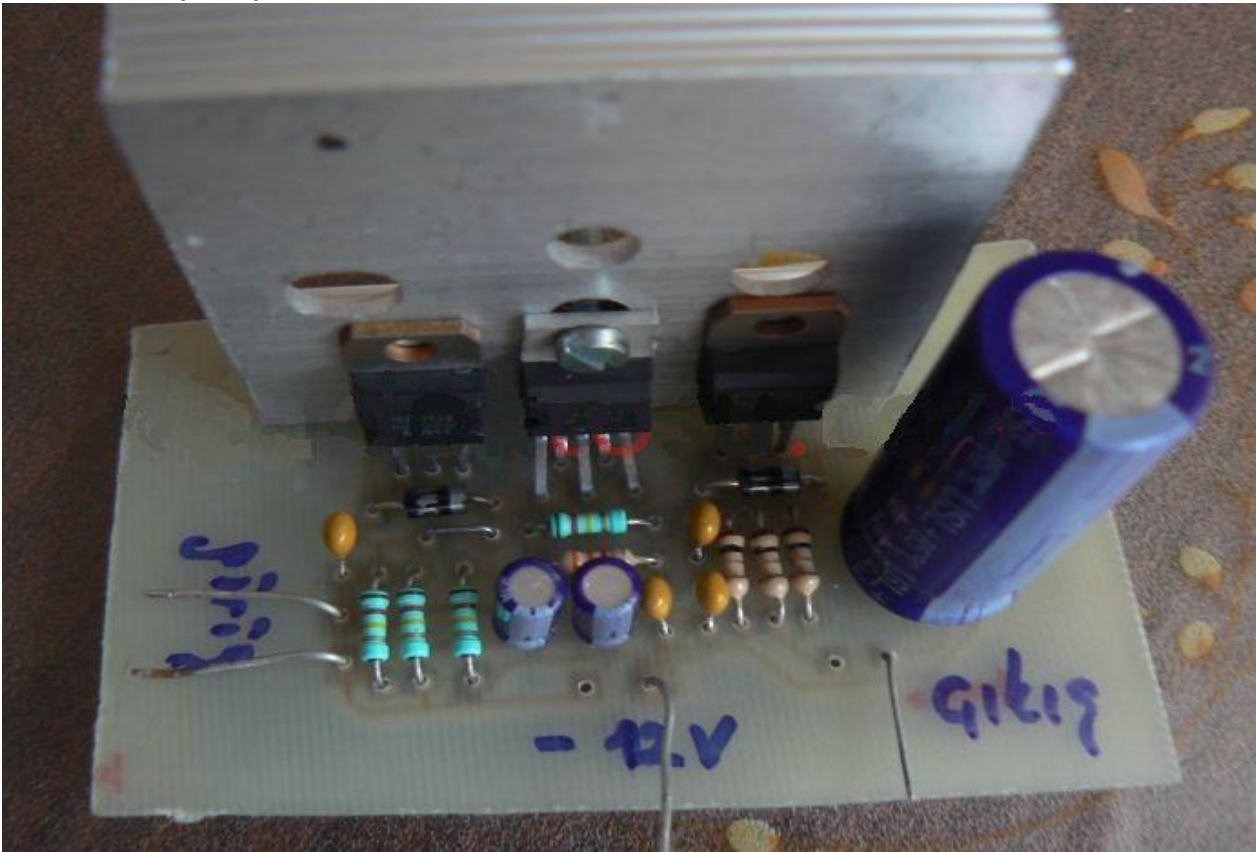


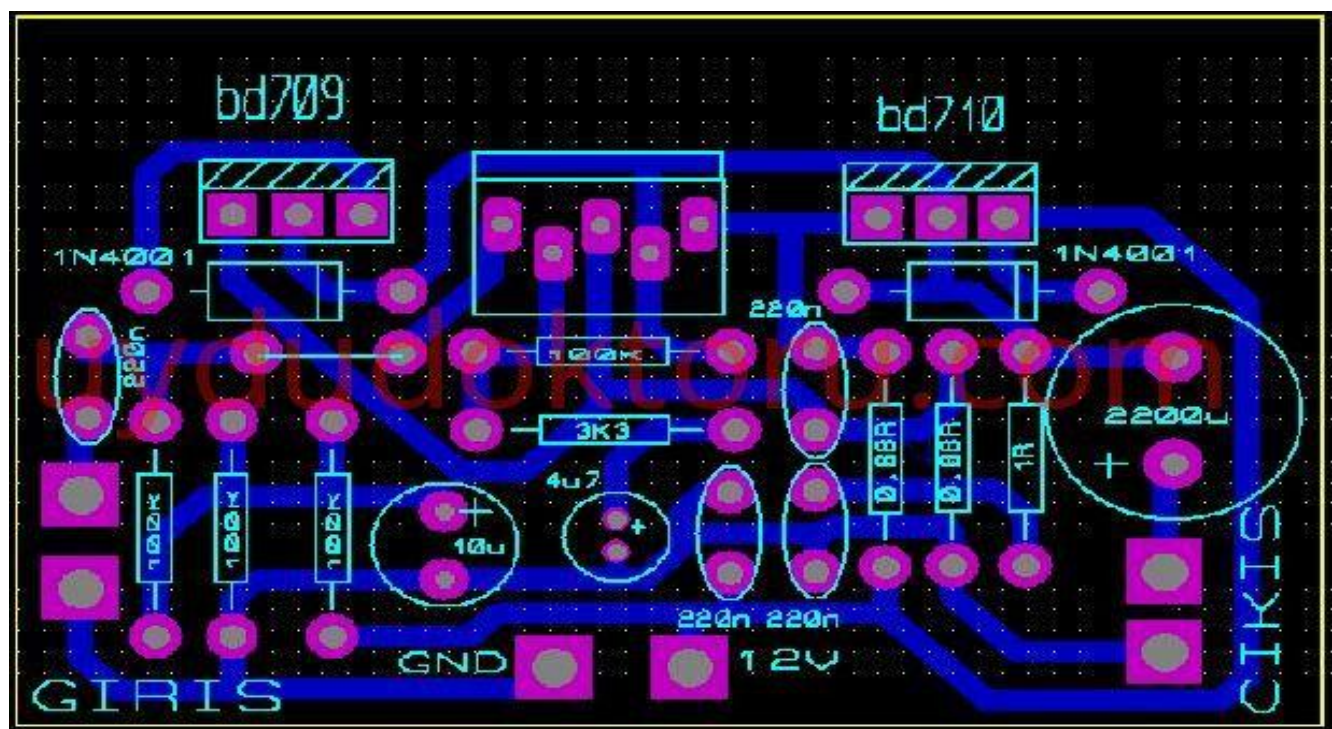
odyo ampli tr 50w 04-01

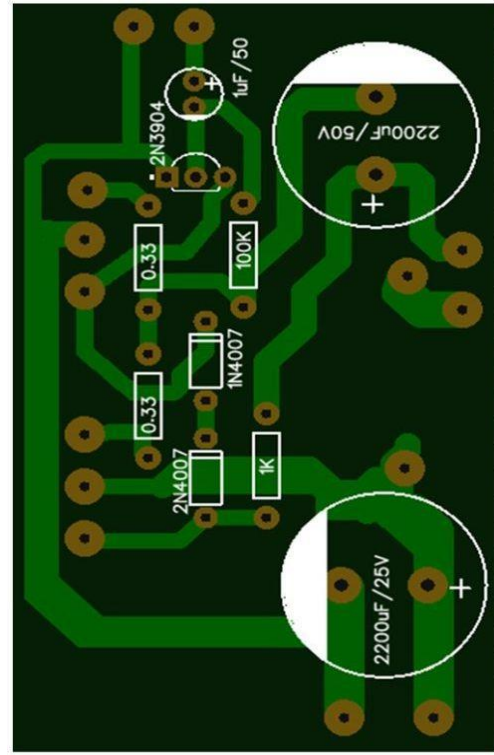
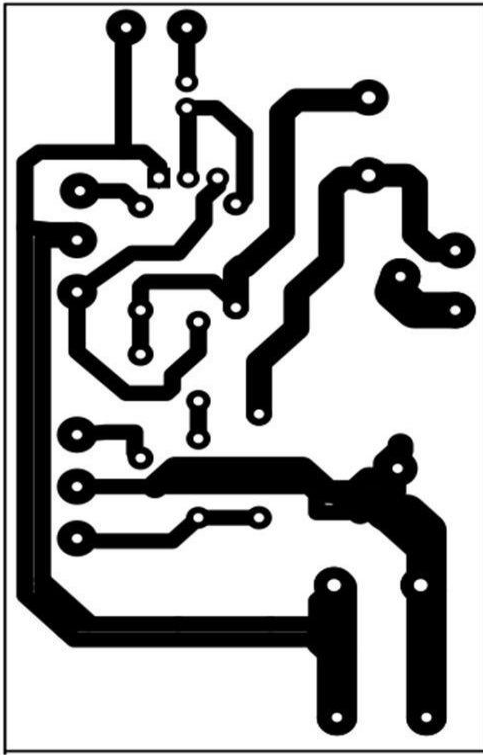




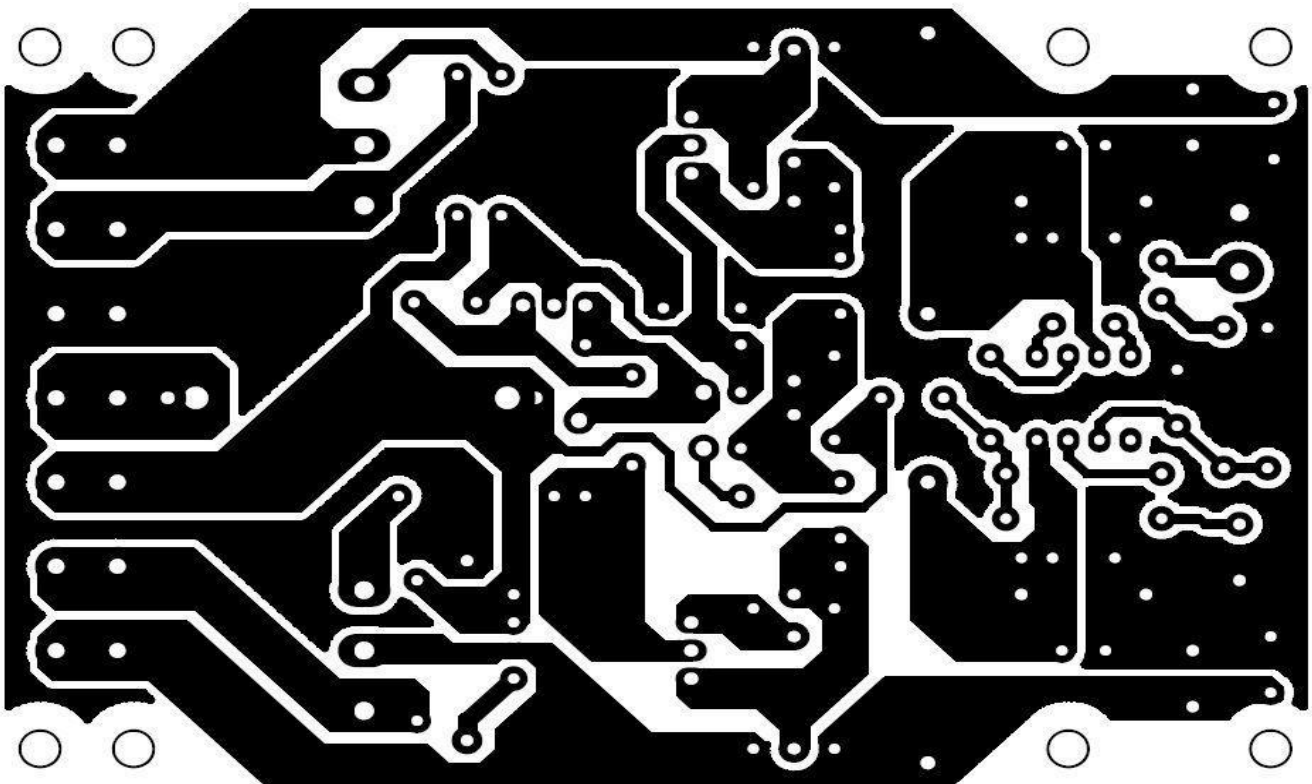
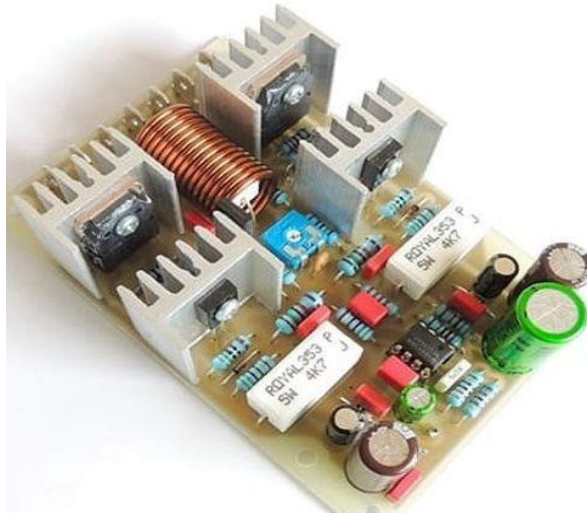
odyo ampli tr 50w 05-01



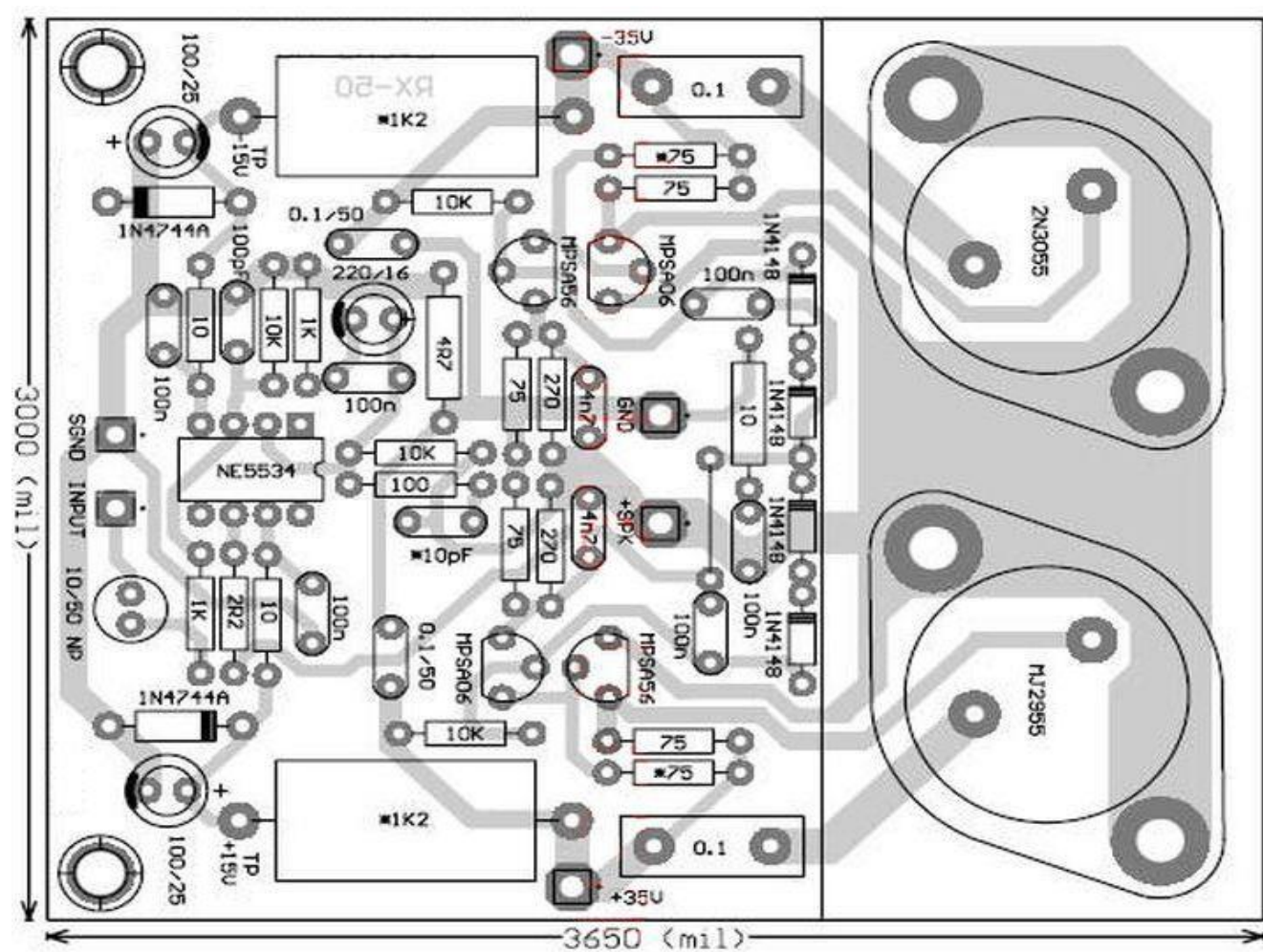
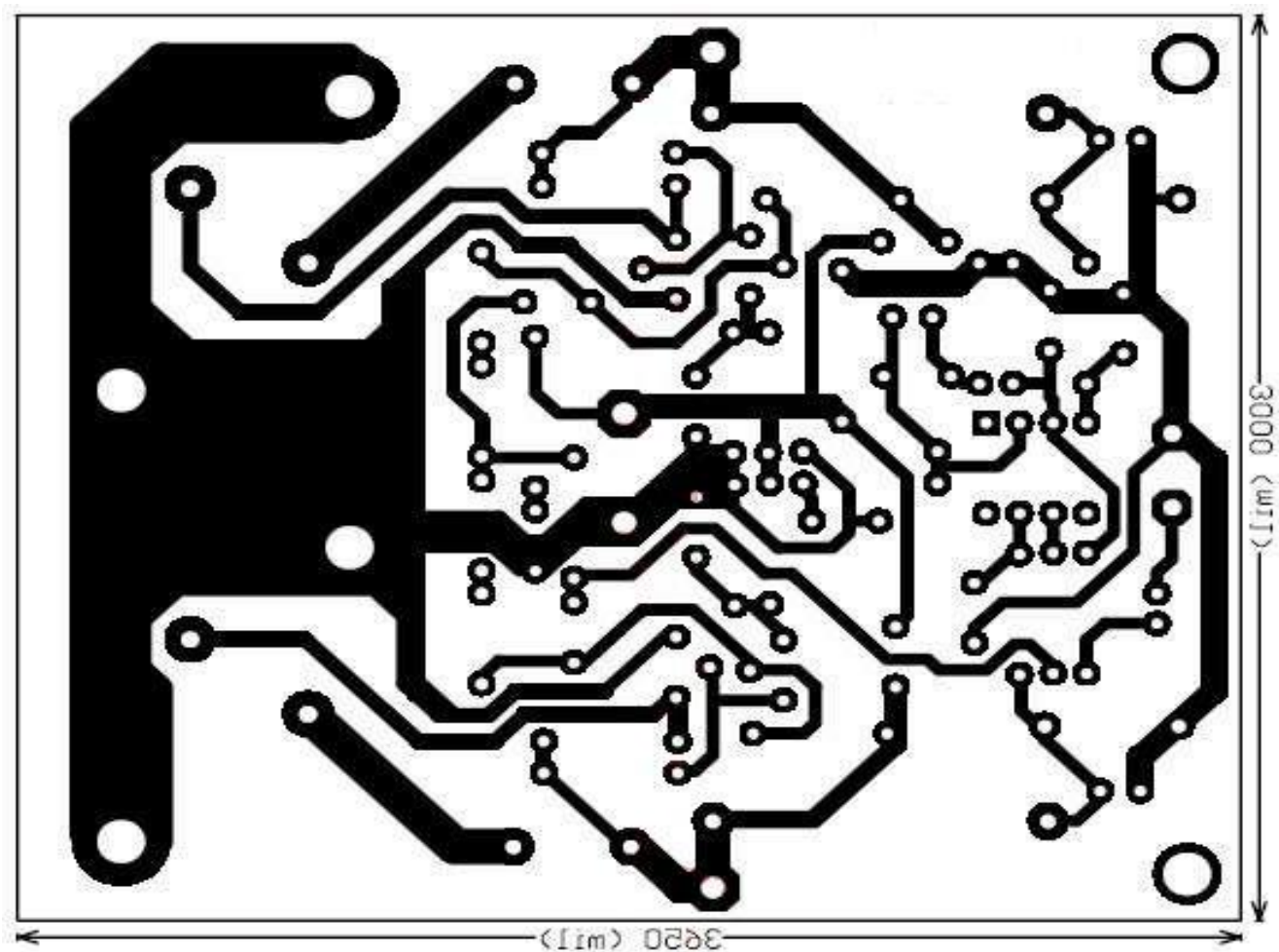




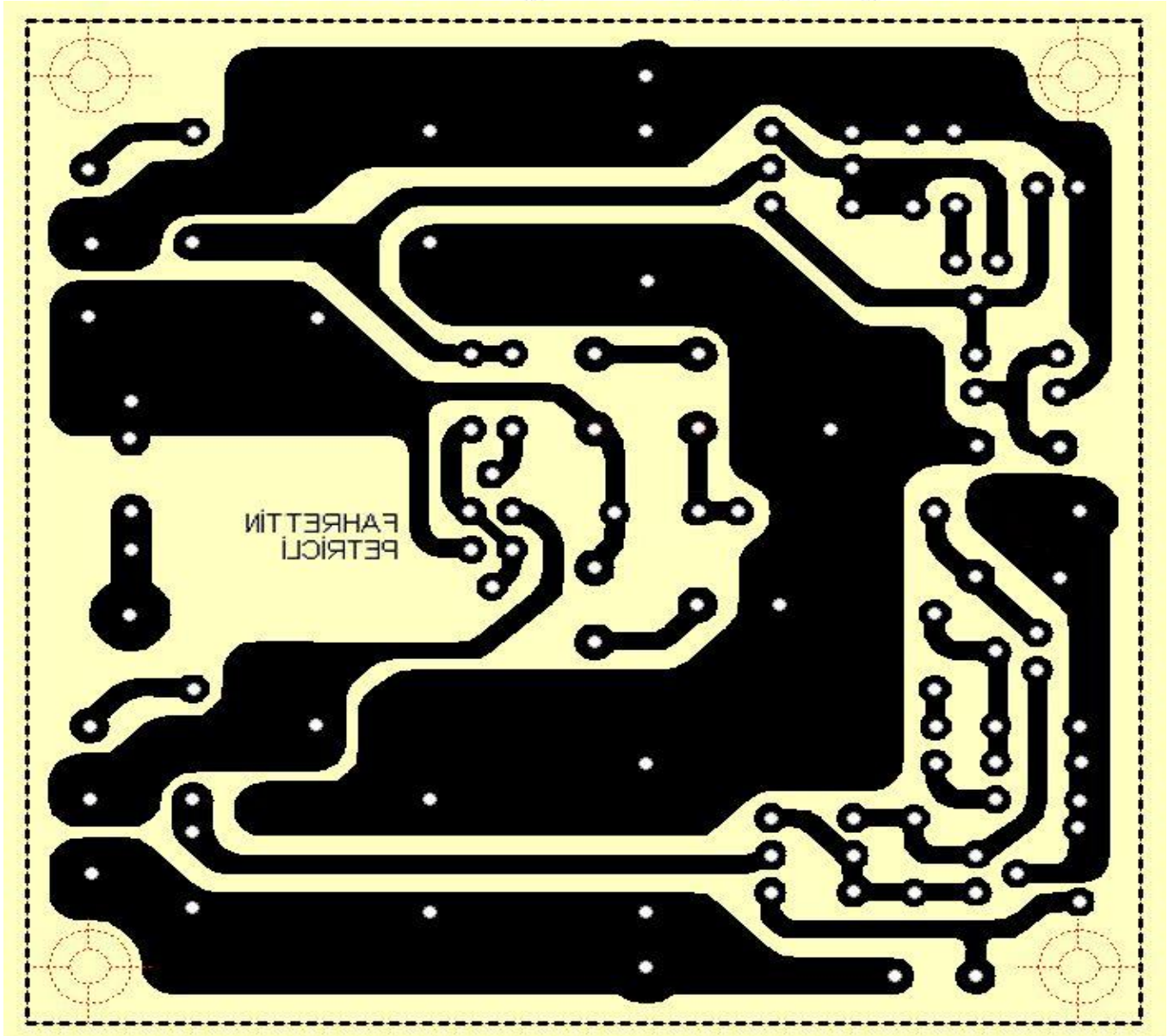
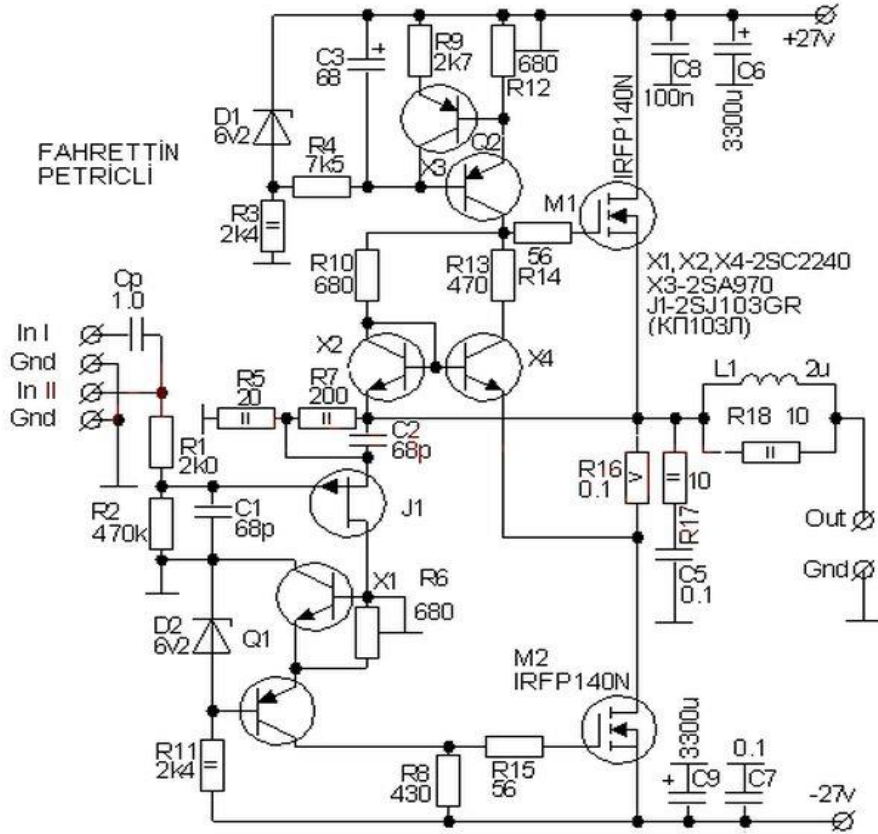
odyo ampli tr 50w 07-01

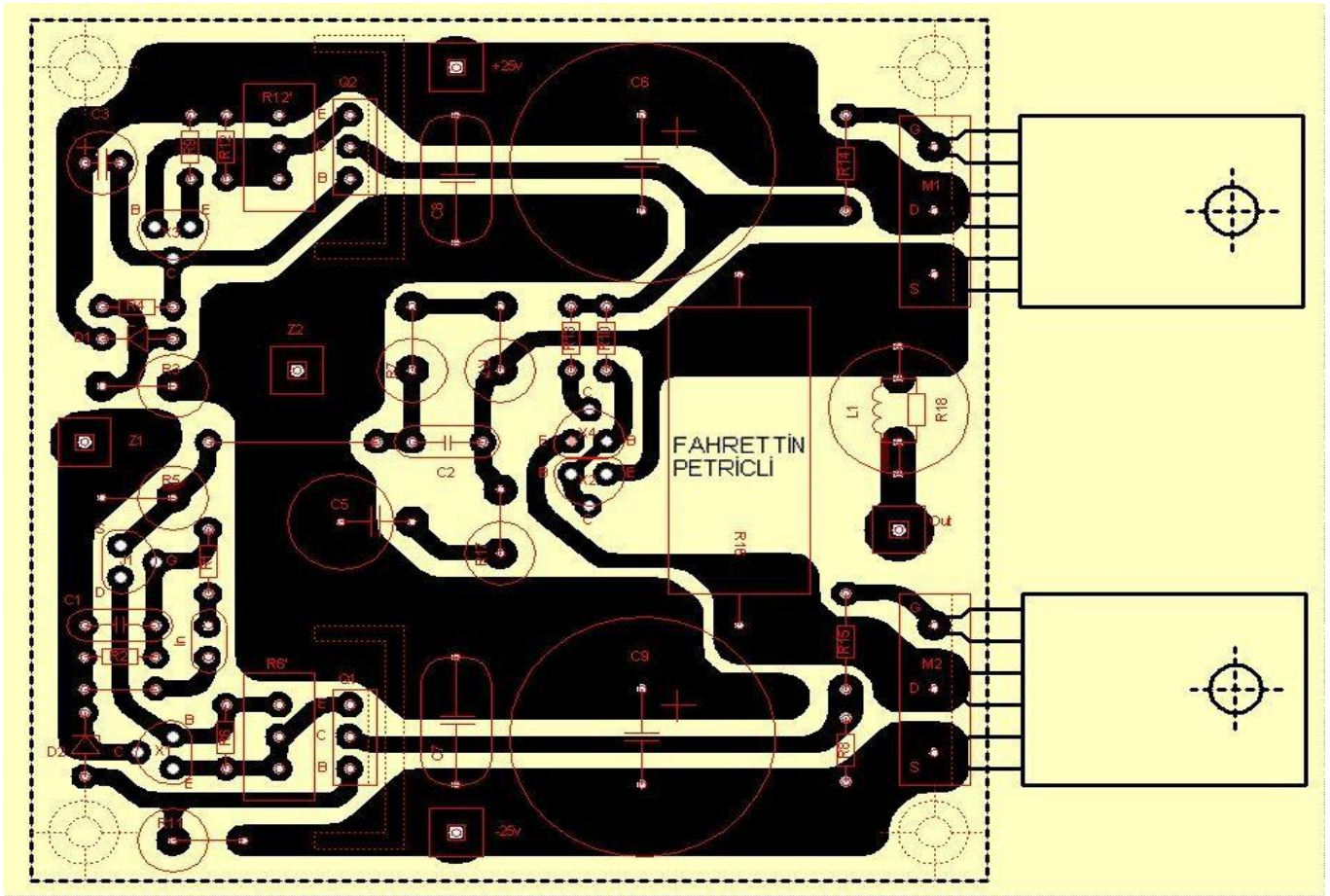




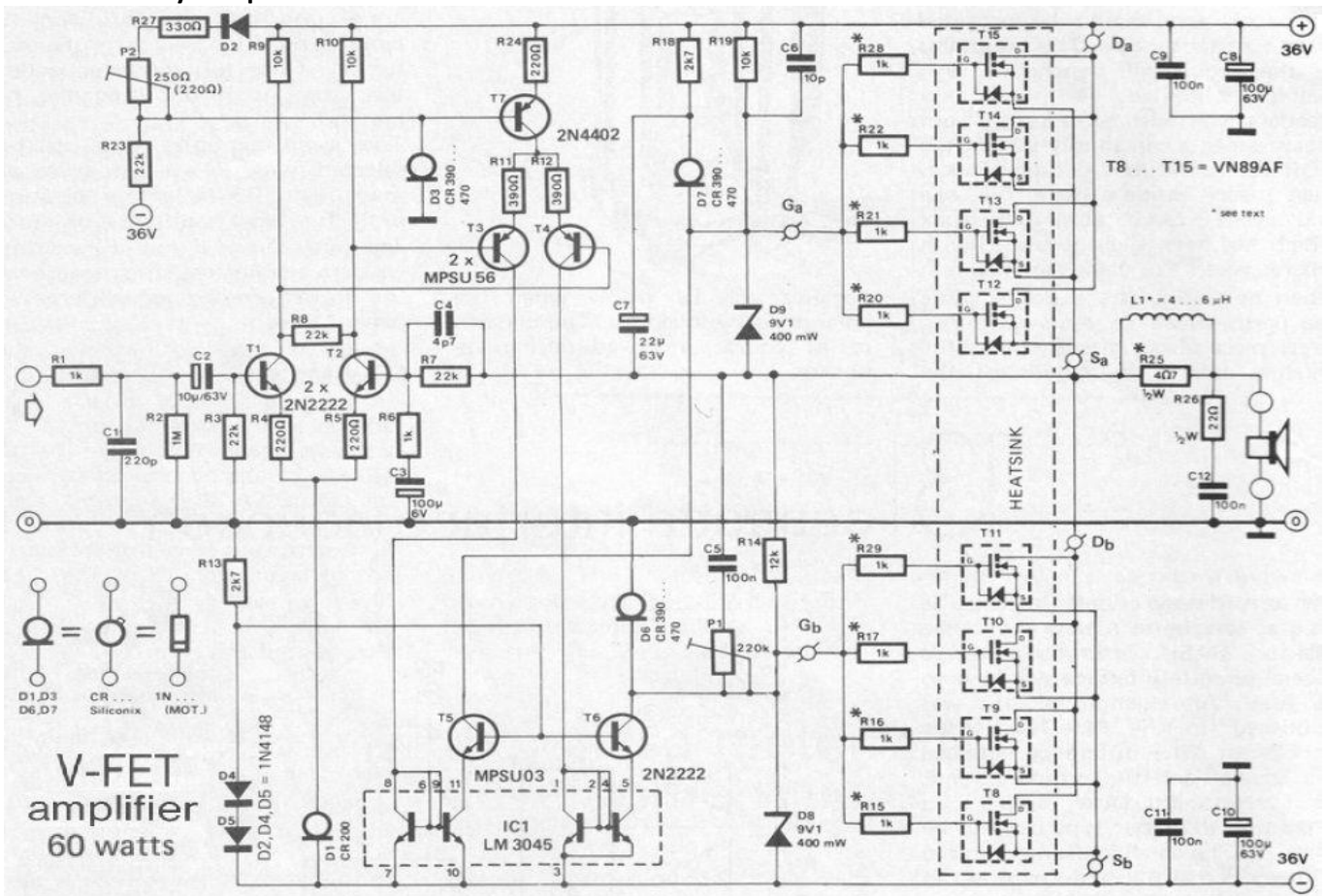


odyo ampli tr 60w 01-01 AB sınıfı





odyo ampli tr 60w 02-01 vfet



R1,R6,R15,R16,R17,R20,
R21,R22,R28,R29 = 1 k
R2 = 1 M
R3,R7,R8,R23 = 22 k
R4,R5,R24 = 220 Ω
R9,R10,R19 = 10 k
R11,R12 = 390 Ω
R13,R18 = 2k7

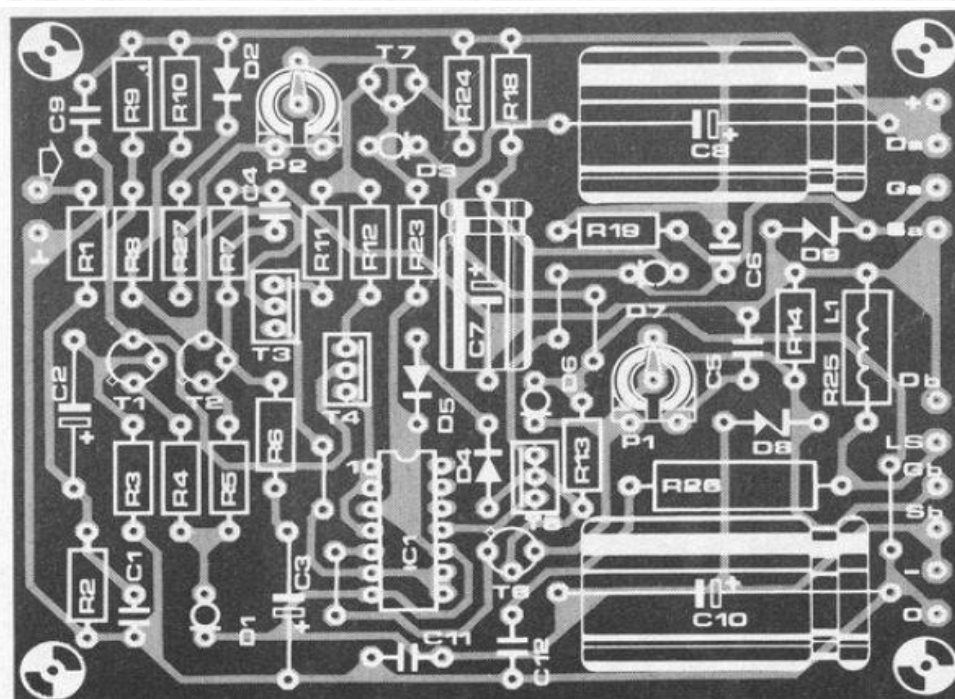
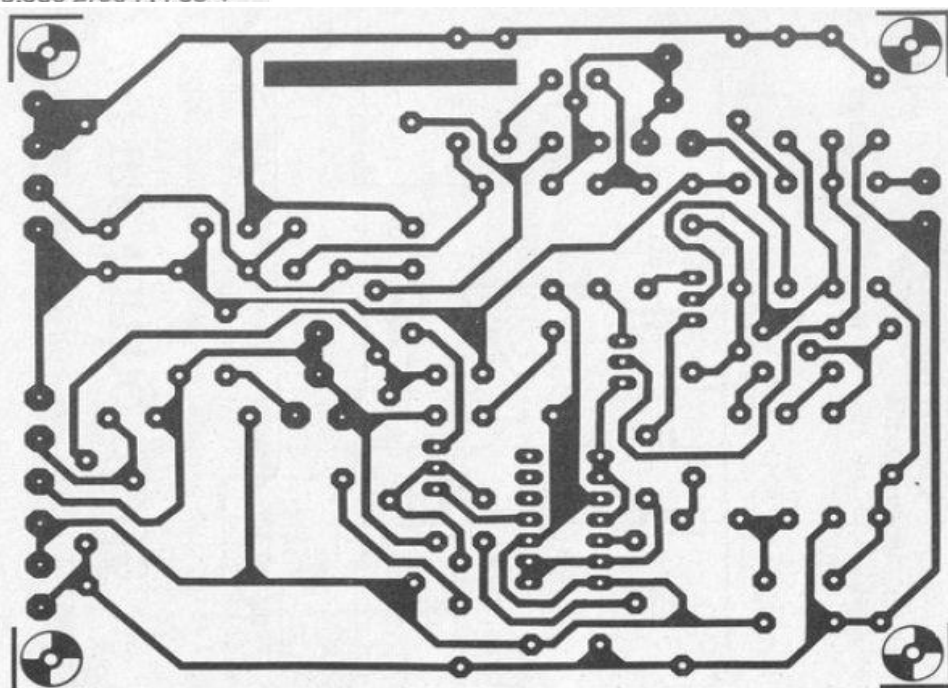
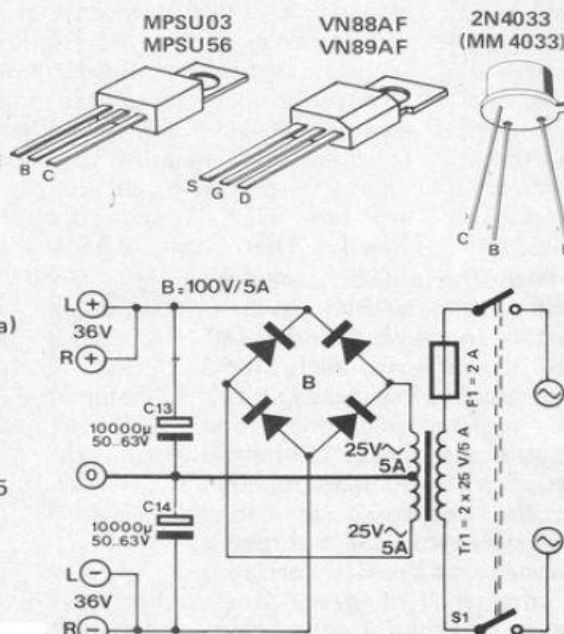
Capacitors:

C1 = 220 p
C2 = 10 μ /35 V
C3 = 100 μ /10 V
C4 = 4p7
C5,C9,C11,C12 = 100 n
C6 = 10 p
C7 = 22 μ /63 V
C8,C10 = 100 μ /63 V
C13,C14 = 10.000 μ /50

IC1 = LM 3045, CA 3045
T1,T2,T6 = 2N2222
T3,T4 = MPSU56 (Motorola)
T5 = MPSU03 (Motorola)
T7 = 2N4402
T8,T9,T10,T11,T12,R13,T14,^E
T15 = VN89AF, 2N6658
(Siliconix)

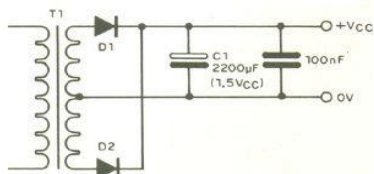
D1 = CR200 (Siliconix)
D2,D4,D5 = 1N4148
D3,D6,D7 = CR390 . . . CR470
(Siliconix), 1N5312 (Motorola)
D8,D9 = 9V1 400 mW
B = 100 V/5 A bridge rectifier

L1 = 20 turns Cu
($\phi = 0.8 \dots 1$ mm) on R25
F1 = 2A slow blow
Tr1 = 2 x 25 V/5 A
(supply: stereo version)
S1 = double pole mains switch

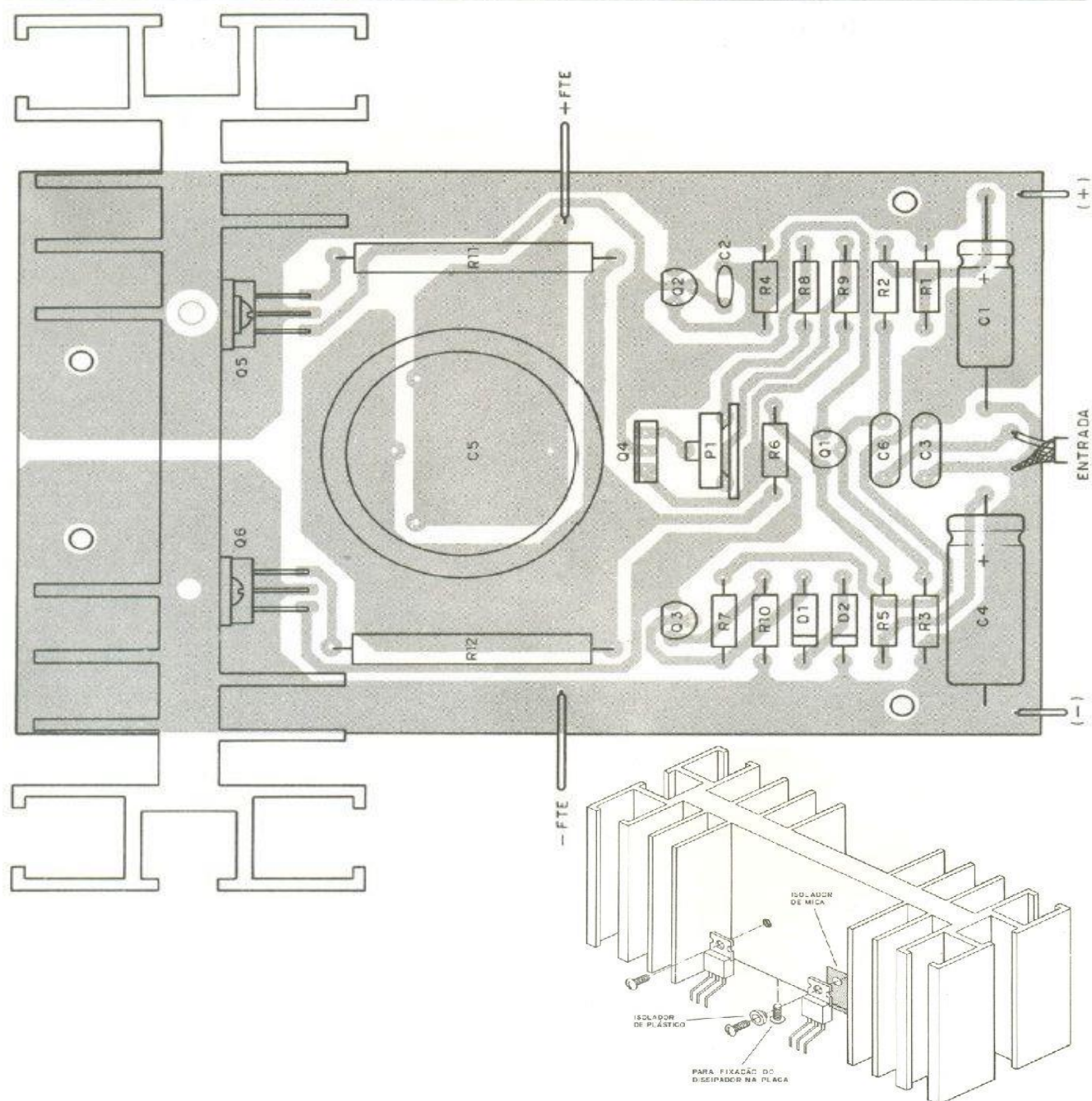
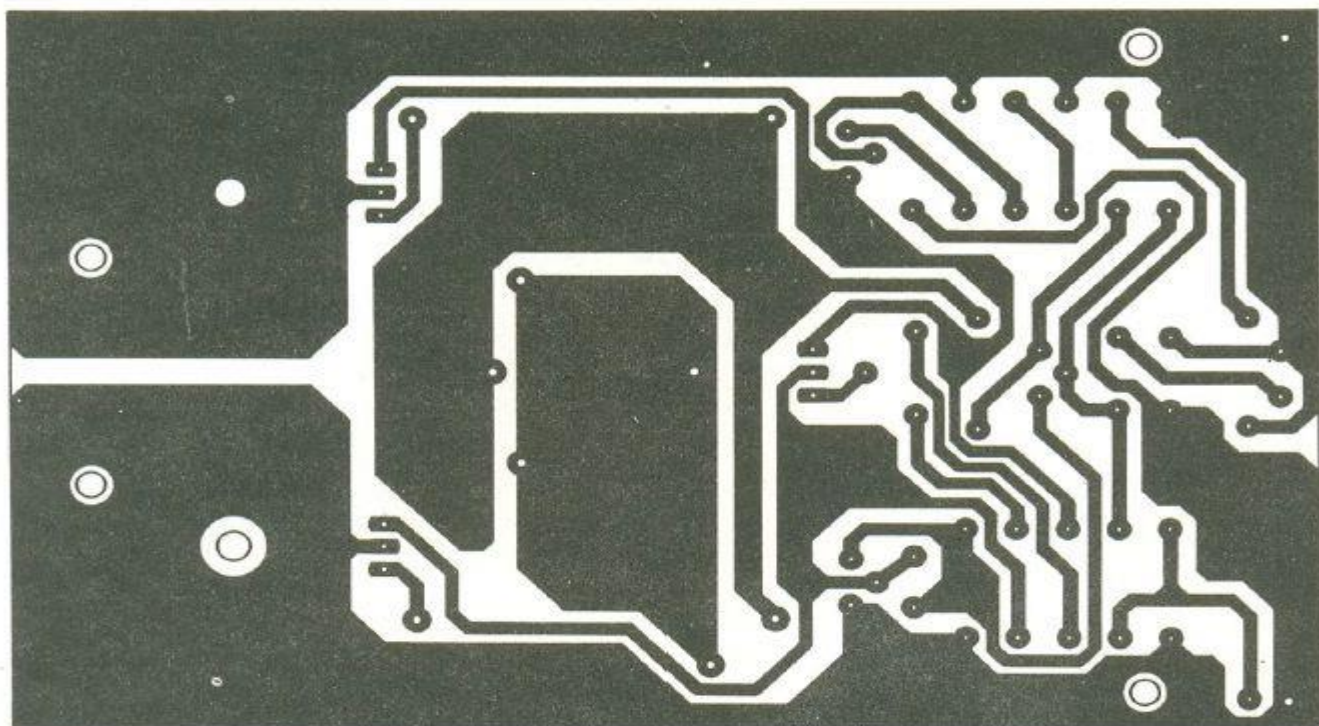


Q1 – BC547 – transistor NPN de uso geral
Q2 – BC640 – transistor PNP de 1A x 80V
Q3 – BC547 – transistor NPN de uso geral
Q4 – BD137 ou BD139 – transistor NPN de média potência
Q5 – TIP120 (de 15 a 25 watts por canal) ou TIP122 (de 35 a 60 watts por canal)
Q6 – TIP125 (de 15 a 25 watts por canal) ou TIP127 (de 35 a 60 watts por canal)
D1, D2 – 1N4148 ou 1N914 – diodos de uso geral
P1 – 1k – trim-pot
C1 – 4,7µF x 50V – capacitor eletrolítico
C2 – 47pF – capacitor cerâmico
C3 – 100nF x 100V – capacitor cerâmico
C4 – 100µF x 50V – capacitor eletrolítico
C5 – 2200µF – eletrolítico com tensão um pouco maior que a da fonte na versão escolhida
C6 – 220nF – capacitor cerâmico
R1 – 39k x 1/4W – resistor (laranja, branco, laranja)
R2 – 82k x 1/4W – resistor (cinza, vermelho, laranja)
R3 – 150k x 1/8W – resistor (marrom, verde, amarelo)
R4 – 1k8 x 1/4W – resistor (marrom, cinza, vermelho)
R5 – ver tabela
R6 – 5k6 x 1/4W – resistor (verde, azul, vermelho)
R7 – ver tabela
R8 – 1k8 x 1/4W – resistor (marrom, cinza, vermelho)
R9 – 2k2 x 1/4W – resistor (vermelho, vermelho, vermelho)
R10 – 120 ohms x 1/4W – resistor (marrom, vermelho, marrom)
R11, R12 – 0,39 ou 0,47 ohms – resistores de fio
Diversos: placa de circuito impresso, dissipador de calor para Q5 e Q6, material para fonte, caixa para montagem, fios, solda, etc.
OBS.: Para a versão estéreo, deve-se adquirir o material em dobro, exceto a fonte de alimentação e a caixa para montagem.

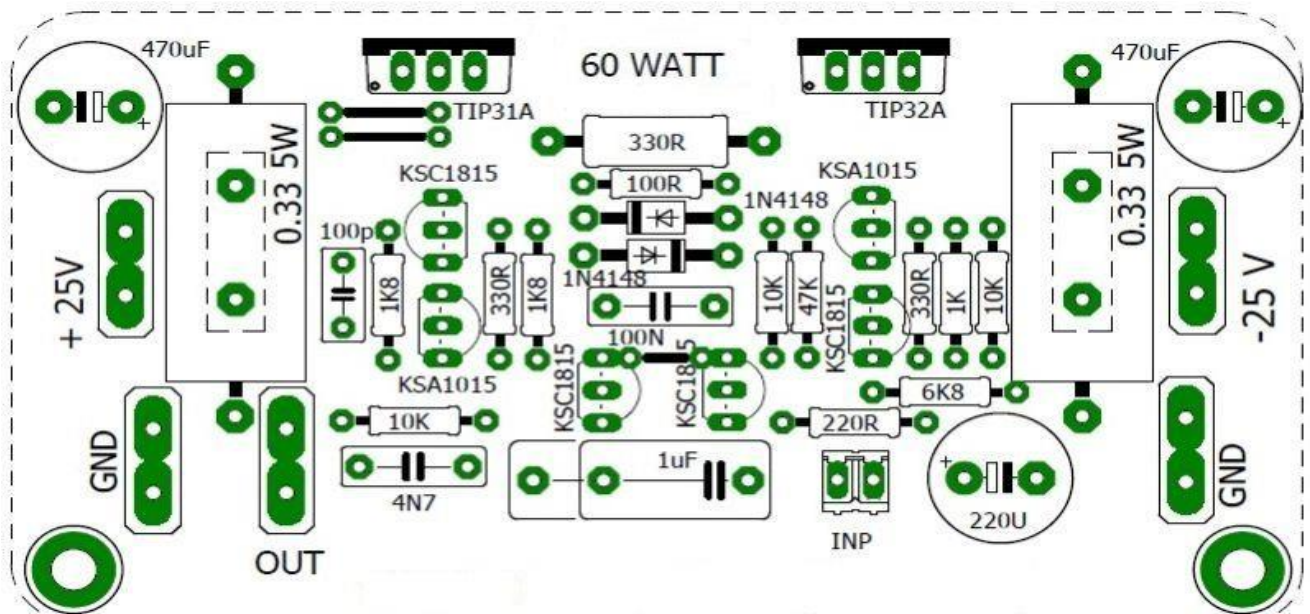
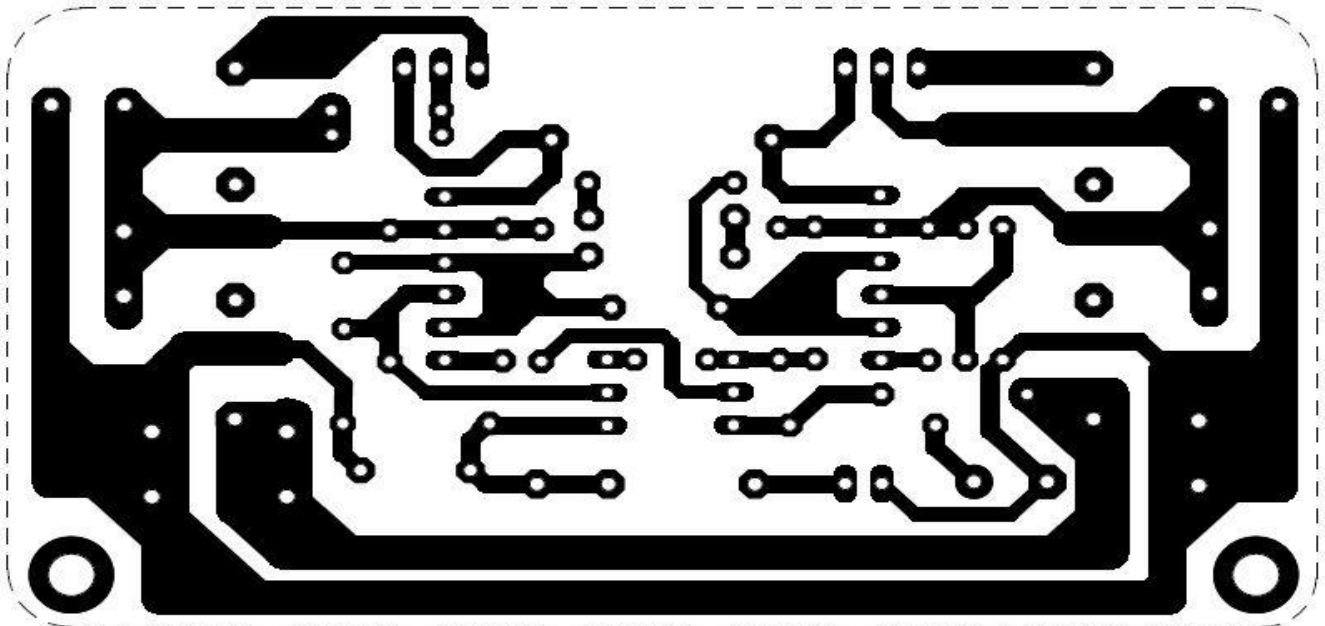
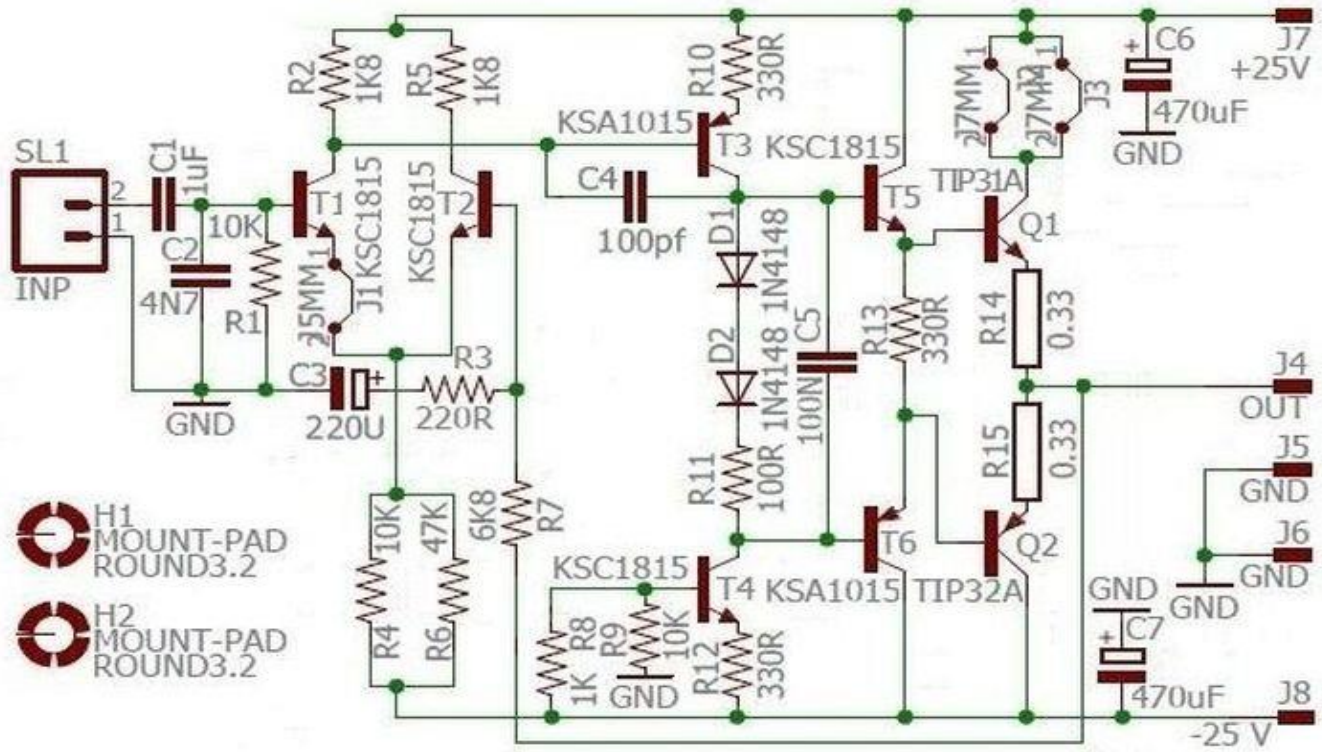
	Potência RMS						
	15	20	25	35	50	60	watts (por canal)
Carga de 8 ohms R5 R7	510 39	470 47	390 47	330 56	270 68	220 68	ohms k ohms
Carga de 4 ohms R5 R7	620 33	560 39	560 39	470 47	390 47	330 56	ohms k ohms



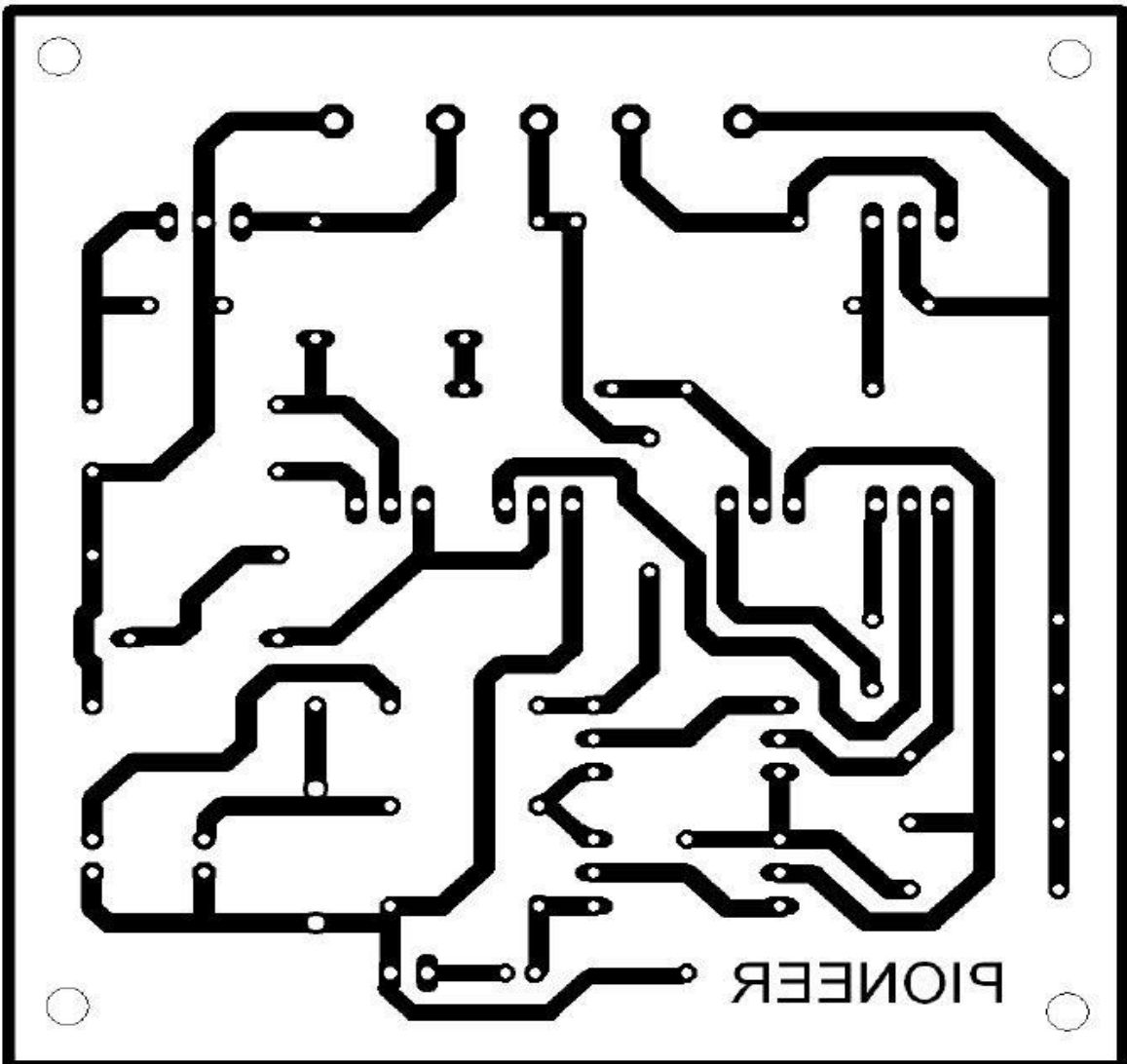
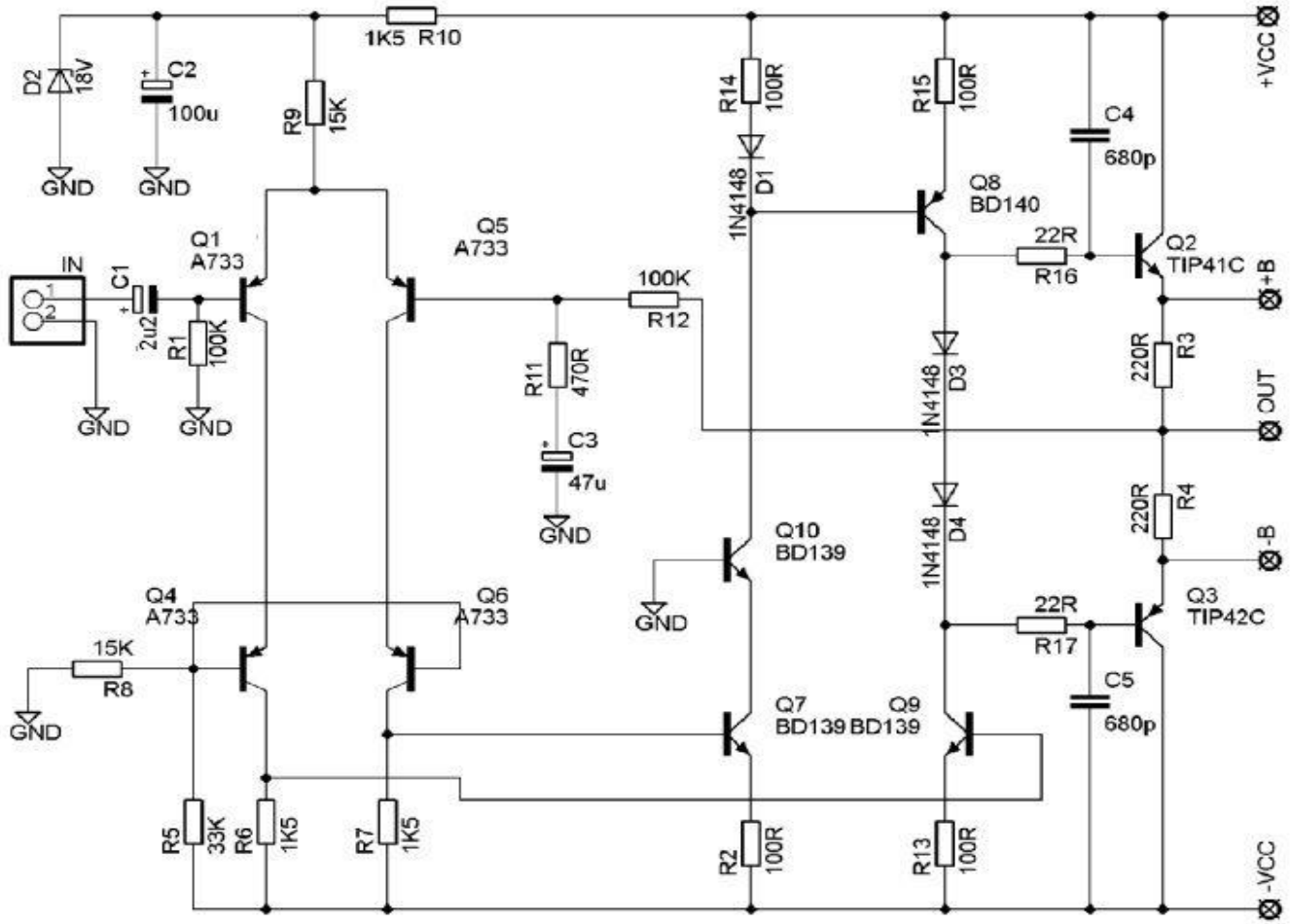
Potência (por canal)	T1	D1/D2	C1/Vcc
15W/8Ω	28V/1A	1N4004	50V
15W/4Ω	24V/1A	1N4004	50V
20W/8Ω	36V/1,5A	100V/2A	50V
20W/4Ω	28V/1,5A	100V/2A	50V
25W/8Ω	38V/1,5A	100V/2A	50V
25W/4Ω	30V/1,5A	100V/2A	50V
35W/8Ω	43V/1,5A	100V/2A	63V
35W/4Ω	36V/1,5A	100V/2A	63V
50W/8Ω	46V/2A	100V/2A	63V
50W/4Ω	35V/2A	100V/2A	63V
60W/8Ω	50V/2A	100V/2A	100V
60W/4Ω	40V/2A	100V/2A	63V

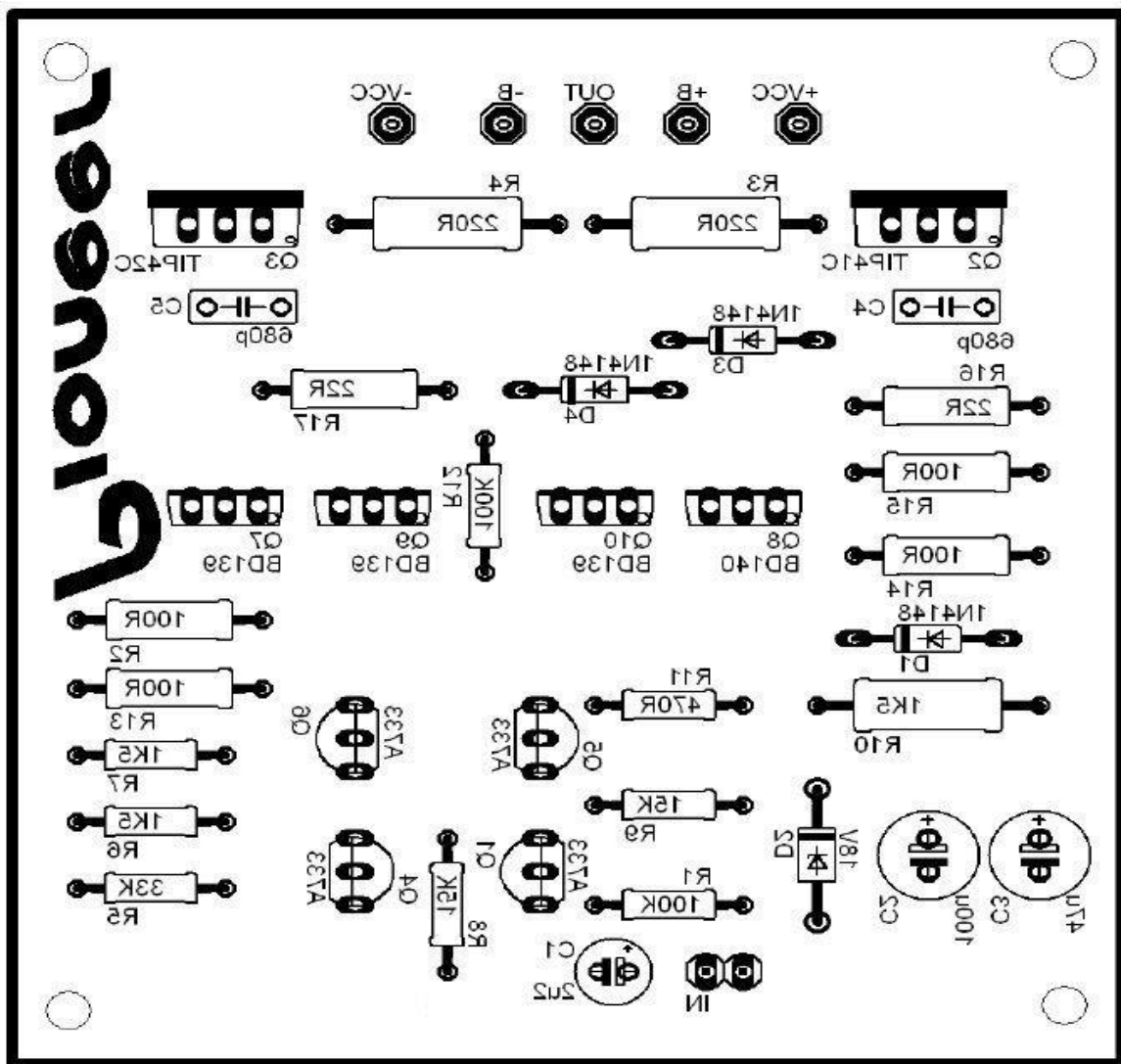


odyo ampli tr 60w 04-01

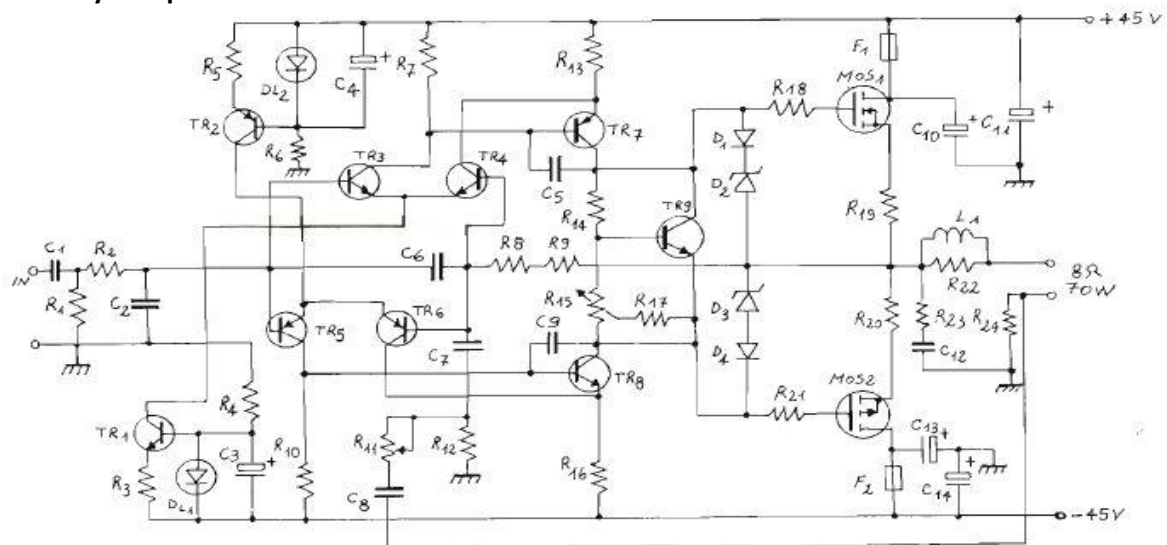


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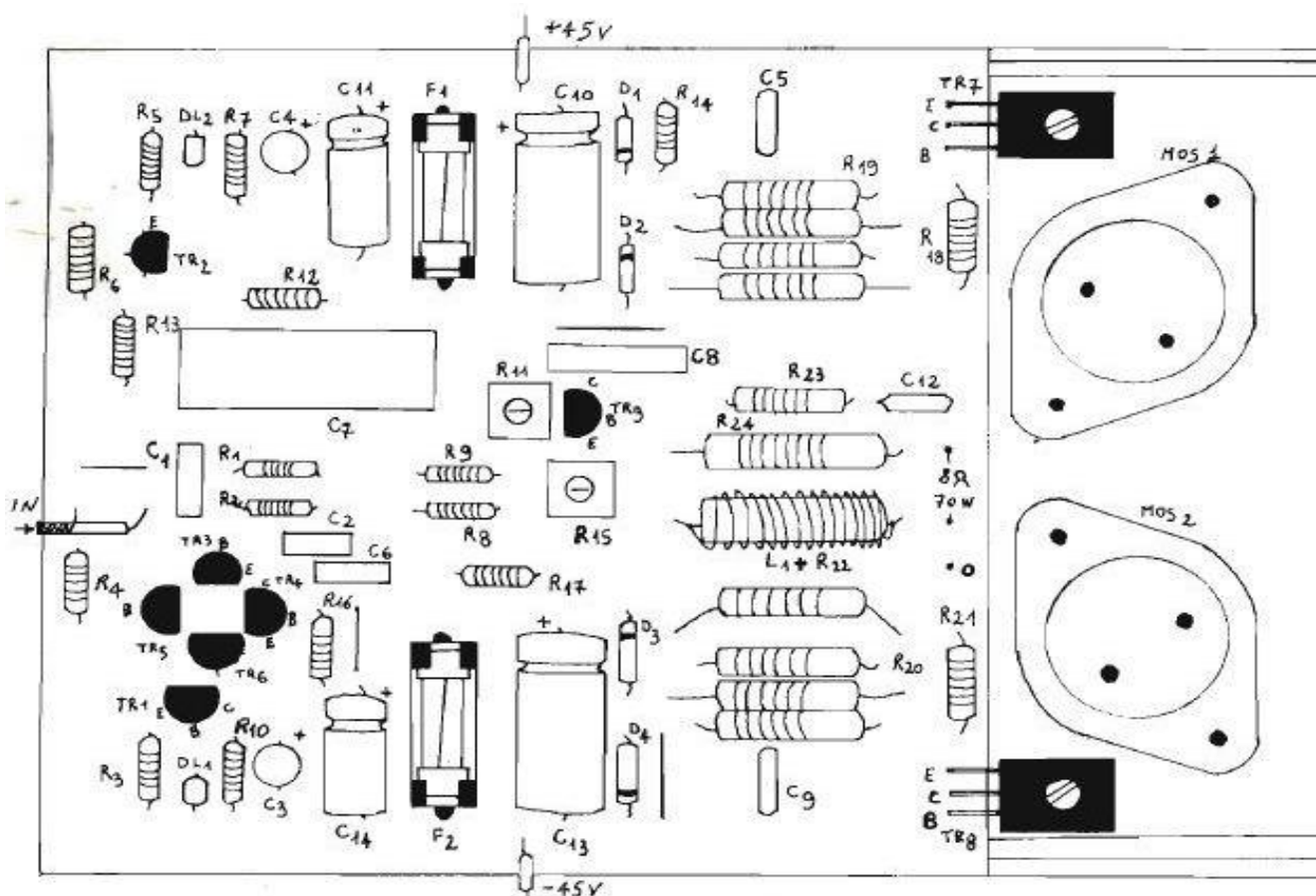
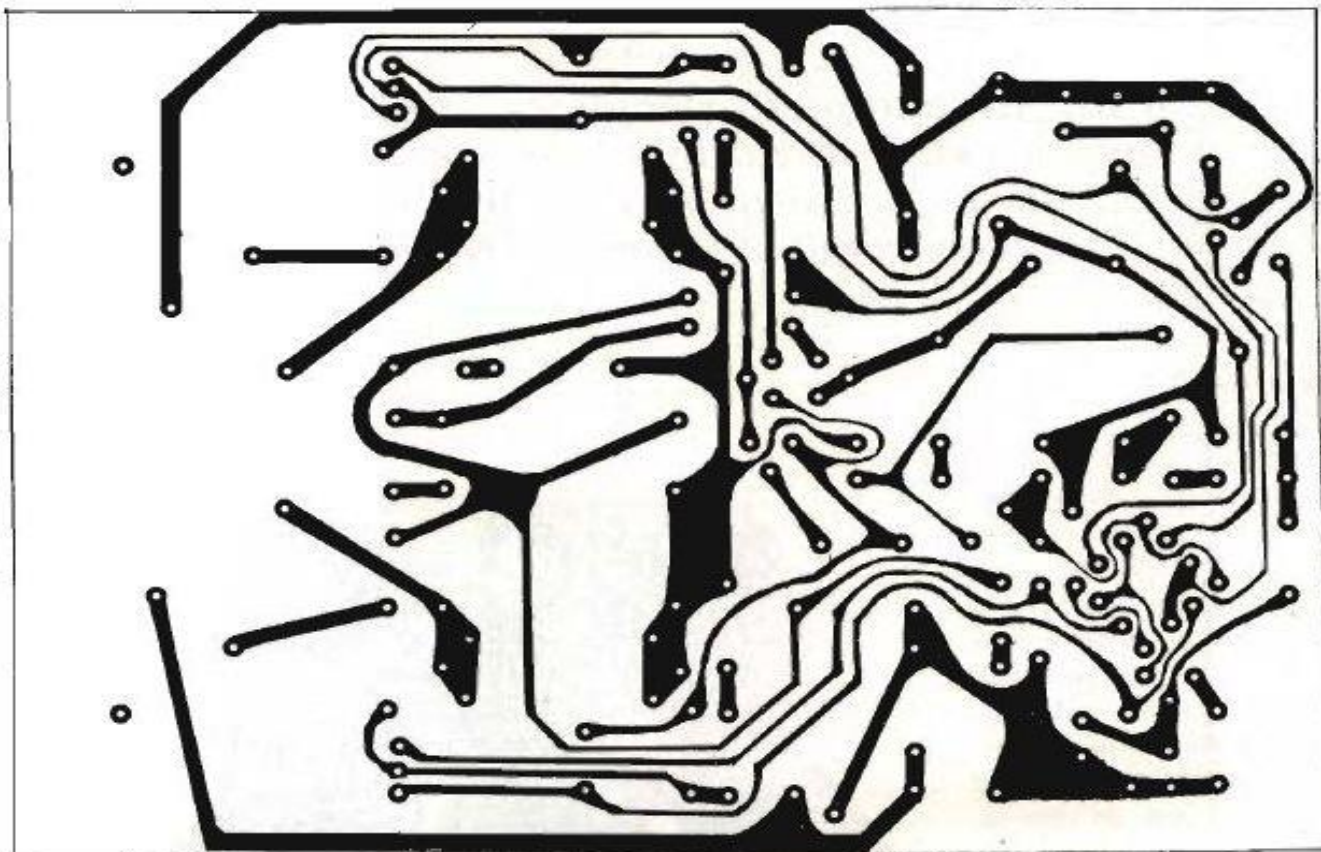




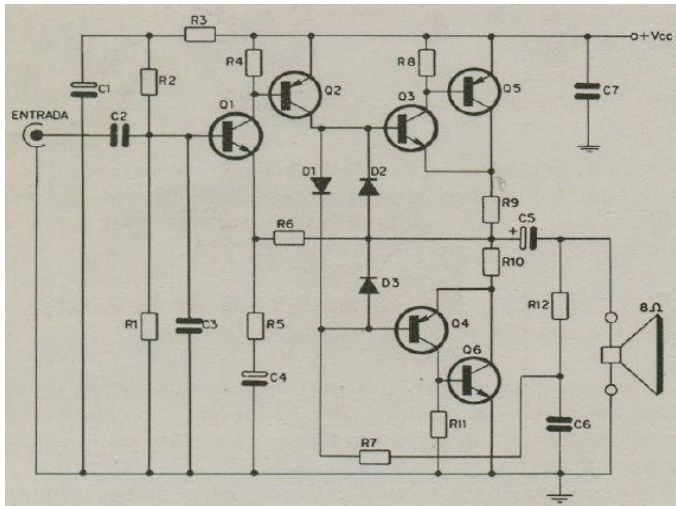
odyo ampli tr 70w 01-01 mos fet 8 ohm



R1=R8=22 KΩ TUTTE DA 1/2 WATT	C1=2.200 nF MKT	TR9=BC 550C,
R2=R9=2,2 KΩ	C2=C6=1 nF CERAMICO	MOS1=2SK 135, MOS2=2SJ 50
R3=R5=1,8 KΩ	C3=C4=10 μF/63 VL VERTICALE	L1=20 SPIRE DI RAME SMALTATO
R4=R6=10 KΩ/ 1/2 WATT	C11=C14=10 μF/63 VL ORIZZ.	SU R22
R7=R10=5,6 KΩ	C5=C9=10 pF CERAMICO O	F1=F2=FUSIBILE 3A
R11=22 KΩ TRIMMER QUADRATO	STYROFLEX	TEMPORIZZATO CON
R12=1,2 KΩ	C7=4.700 nF	PORTAFUSIBILE
R13=R16=100 Ω	C8=1.000 nF	
R14=680 Ω	C10=C13=100 μF/63 VL orizz.	
R15=1 KΩ TRIMMER QUADRATO	C12=47 nF	
R17=220 Ω	DL1=DL2=DIODI LED ROSSI/	
R18=R21=470 Ω	D1=D4=1N 4148	
R19=R20 0,25/6 WATT STRATO	D2=D3=12 V/400 mW	
CARBONE O 4 X 1 Ω 2 WATT	TR1=TR3=TR4=BC 550C	
R22=1 Ω 2 WATT	TR2=TR5=TR6=BC 560C	
R23=10 Ω 1 WATT	TR7=BF 470	
R24=0,47 Ω /6W CARBONE	TR8=BF 469	



odyo ampli tr 70w 02-01



LISTA DE MATERIAL

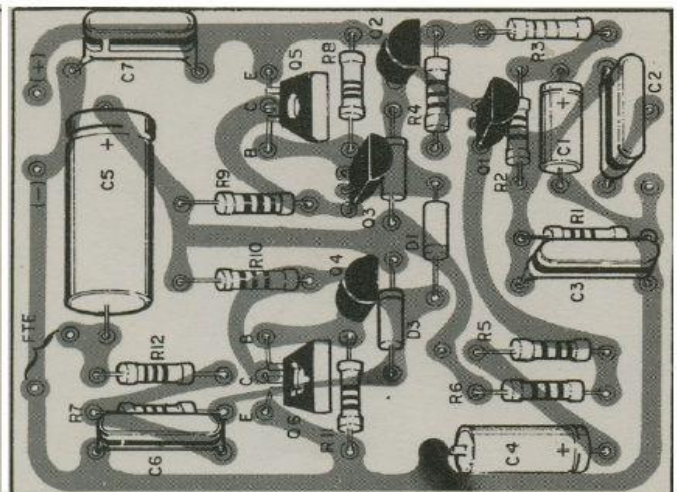
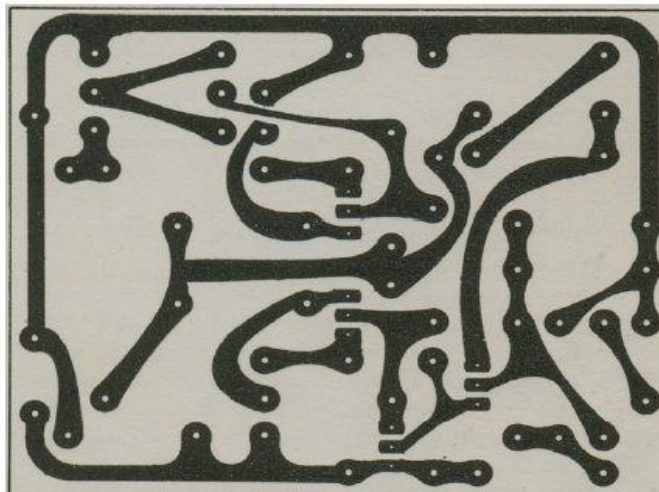
	7W	10W	15W	20W	25W	30W	35W
Vcc	26V	30V	35V	43V	46V	50V	54V
R1	2,7M	2,7M	660K	560K	220K	220K	220K
R2	1,2M	1,0M	330K	330K	150K	150K	150K
R3	390K	220K	120K	120K	47K	47K	47K
R4	5,6K	5,6K	5,6K	5,6K	5,6K	5,6K	5,6K
R5	100	82	100	75	220	270	270
R6	8,2K	8,2	10K	10K	10K	10K	10K
R7	3,9K	3,9K	4,7K	5,6K	5,6K	6,8K	8,2K
R8	180	180	180	180	180	180	180
R9	0,47	0,47	0,47	0,39	0,39	0,39	0,39
R10	0,47	0,47	0,47	0,39	0,39	0,39	0,39
R11	180	180	180	180	180	180	180
R12	10	10	10	12	12	12	12
C1	1μ	1μ	1μ	1μ	1μ	1μ	1μ
C2	1μ	1μ	1μ	1μ	1μ	1μ	1μ
C3	47p	47p	56p	56p	82p	100p	120p
C4	47μ	47μ	47μ	47μ	47μ	47μ	47μ
C5	2200μ	2200μ	2200μ	2200μ	2200μ	2200μ	2200μ
C6, C7	0,1μ	0,1μ	0,1μ	0,1μ	0,1μ	0,1μ	0,1μ
Q1	BC549	BC549	BC549	BC549	BC549	BC549	BC549
Q2	BC556	BC556	BC556	BC556	BC840	BC840	BC840
Q3	BC547	BC547	BC637	BC637	BC637	BC637	BC637
Q4	BC557	BC557	BC638	BC638	BC638	BC638	BC638
Q6	BD135	BD135	TIP31A	TIP31B	TIP31C	TIP31C	TIP31C
Q5	BD136	BD136	TIP32A	TIP32B	TIP32C	TIP32C	TIP32C
D1, D2, D3	BA314	BA314	BA314	BA314	BA314	BA314	BA314

	7W	10W	15W	20W	25W	30W	35W
Zentrada	800K	700K	200K	200K	90K	90K	90K
Icc	420mA	500mA	580mA	700mA	750mA	850mA	950mA
Distorção Harmônica	2%	2%	1%	1%	0,5%	0,5%	0,5%
Sensib. Entrada	0,1V	0,1V	0,1V	0,1V	0,45V	0,45V	0,45V

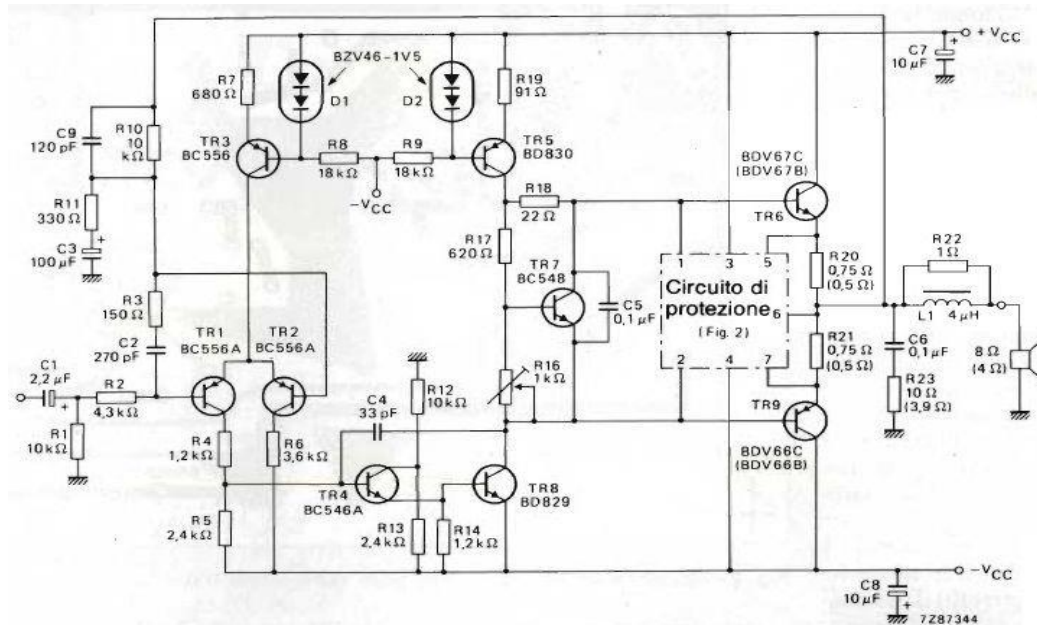
Condições de funcionamento:
Pmax

EQUIVALÊNCIAS

BD135	TIP29A, TIP29B, TIP29C BD137, BD139
BD136	TIP30A; TIP30B; TIP30C BD138; BD140
TIP31A	TIP31B; TIP31C
TIP32A	TIP32B; TIP32C



odyo ampli tr 70w 03-01



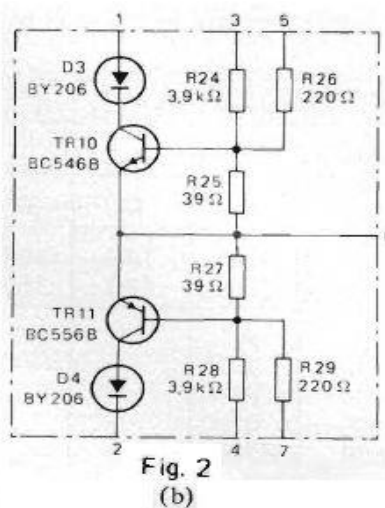
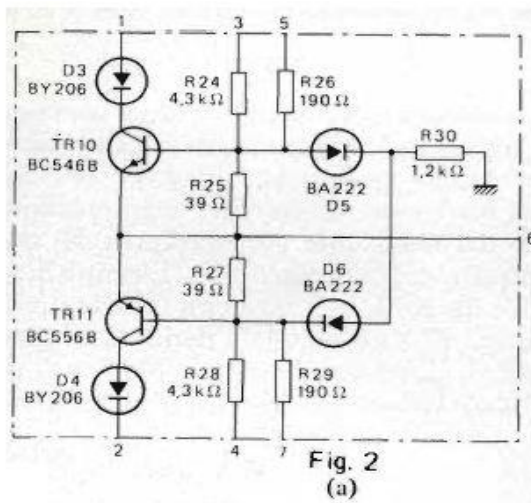


Tabella 1 - Caratteristiche principali dei transistori BDV66/BDV67.

	BDV66/BDV67(p.n.p./n.p.n.)			
	A	B	C	D
$|V_{CBO}|_{\text{max. (V)}}$	100	120	140	160
$|V_{CEO}|_{\text{max. (V)}}$	80	100	120	150
$|I_C|_{\text{max. c.c.}}$	16	A		
$|I_{CM}|_{\text{max.}}$	20	A		
$P_{\text{tot}} (T_{\text{mb}} = 25^\circ\text{C}, |V_{CEO}| \leq 50 \text{ V})$	200	W		
$T_{j \text{ max}}$	150	$^\circ\text{C}$		
$R_{\text{th (j-mb)}}$	0,625	K/W		
$f_{\text{hfe}} (3 \text{ V, } 5 \text{ A})$	60	kHz		
$h_{\text{FE}} (3 \text{ V, } 10 \text{ A})$	>	1000		
$|V_{BE}|, (3 \text{ V, } 10 \text{ A})$	<	2,5 V		
$|V_{CEsat}|, (10 \text{ A, } 40 \text{ mA})$	<	2,0 V		
$|I_{CBO}| \text{ at } 1/2 |V_{CEO}|_{\text{max.}}, T_j = 150^\circ\text{C}$	<	1 mA		

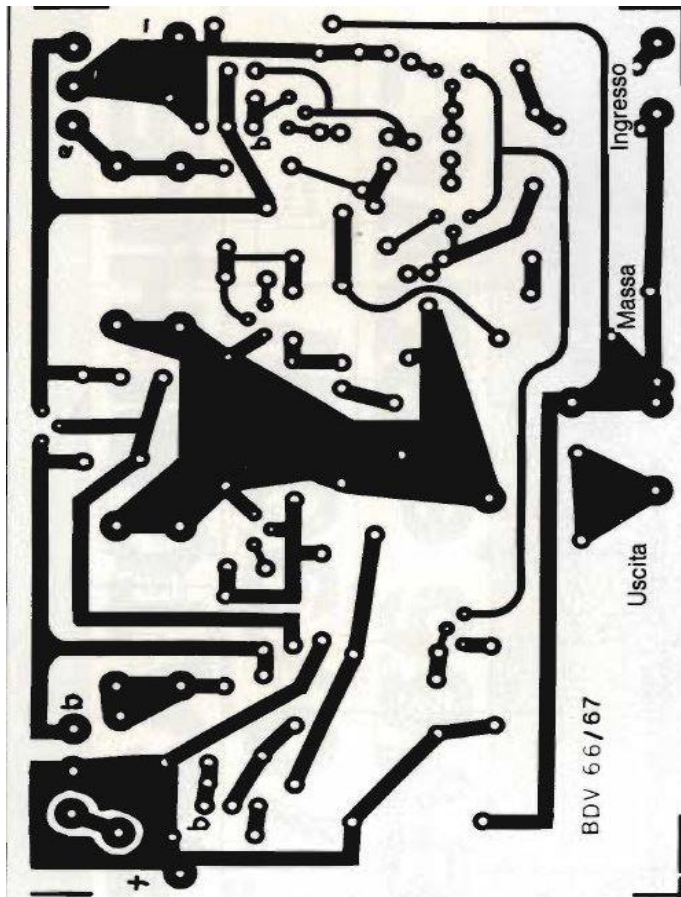
Tabella 2 - Tensioni di alimentazione (correnti di uscita) valori di dissipazione e dissipatori di calore richiesti.

parametri	amplificatore 70 W/8Ω	amplificatore 90 W/4Ω
corrente di picco di uscita $I_o = \sqrt{(2 P_o / R_L)}$	4,2 A	6,7 A
tensione di picco di uscita $V_o = \sqrt{(2 P_o R_L)}$	33,5 V	26,8 V
R_E richiesta (R20, R21)	0,75 Ω	0,5 Ω
caduta di tensione ai capi di $R_E (I_o R_E)$	3,15 V	3,35 V
$V_{BE \text{ max}}$ (TR6, TR9)	2 V	2,2 V
V_{CEsat} (TR5, TR8) + $V_{\text{perdita}} (R19)$	1 V	1 V
tensione di alimentazione (a pieno carico) V_{CC}	± 40 V	± 34 V
tensione di alimentazione (assenza di carico) $V_{CC0} (= V_{CC} / 0,85)$	± 47 V	± 40 V
tensione di alimentazione in corrispondenza dell'escursione $2/\pi$ $V_{CC(2/\pi)} = V_{CC0} \times 0,9$	± 42,3 V	± 36 V
dissipazione di potenza nelle condizioni peggiori $P_d = \frac{(1,1 V_{CC(2/\pi)})^2}{\pi^2 (R_L' + R_E)}$	30,7 W	42,9 W
$R_{\text{thj-a}} = \frac{T_{j \text{ max}} - T_a}{P_d}$ (per $T_a = 45^\circ\text{C}$)	3,4 K/W	2,5 K/W
resistenza termica radiatore-ambiente ($R_{\text{th h-a}}$) per i due transistori d'uscita	1 K/W	0,5 K/W
lunghezza radiatore (Seifert KL 139)	38 mm	125 mm

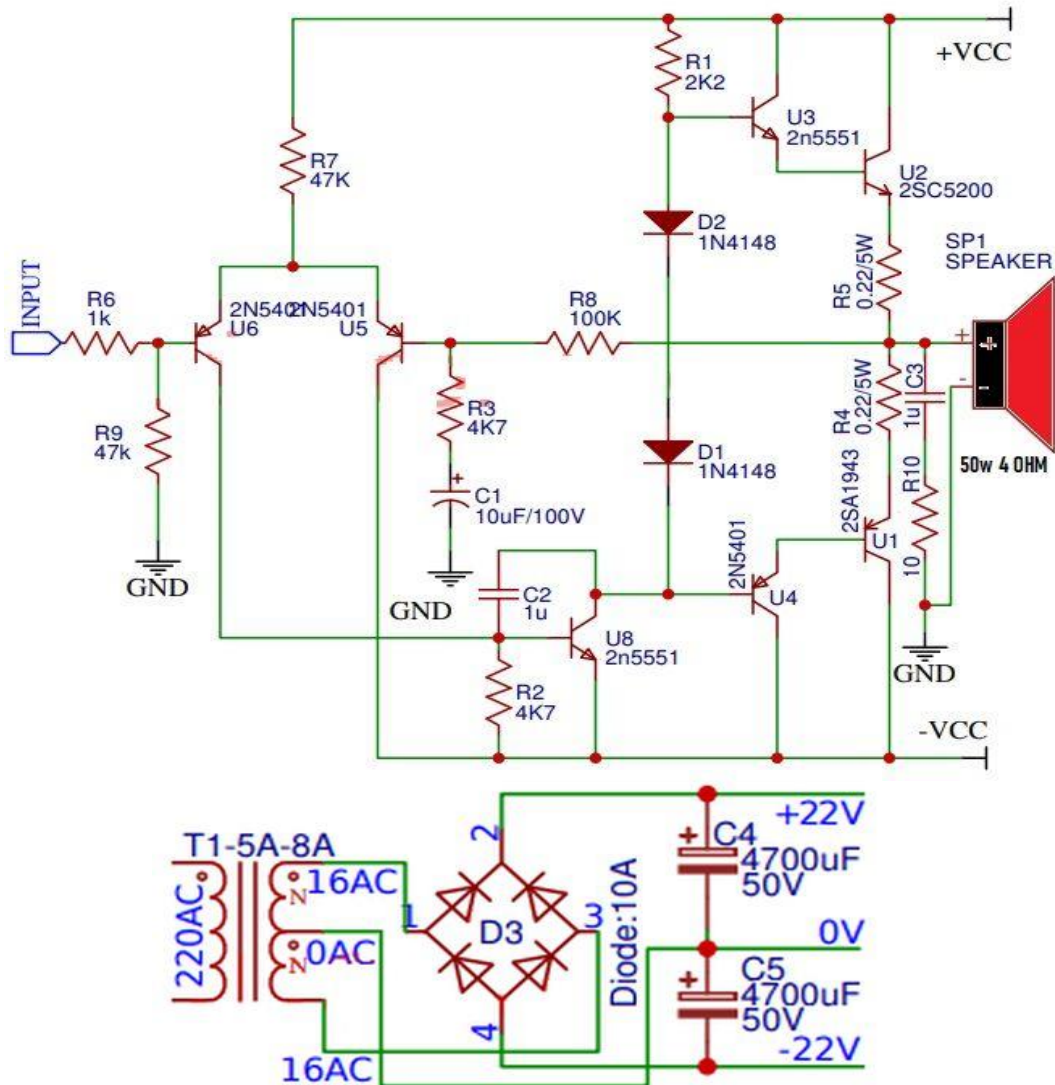
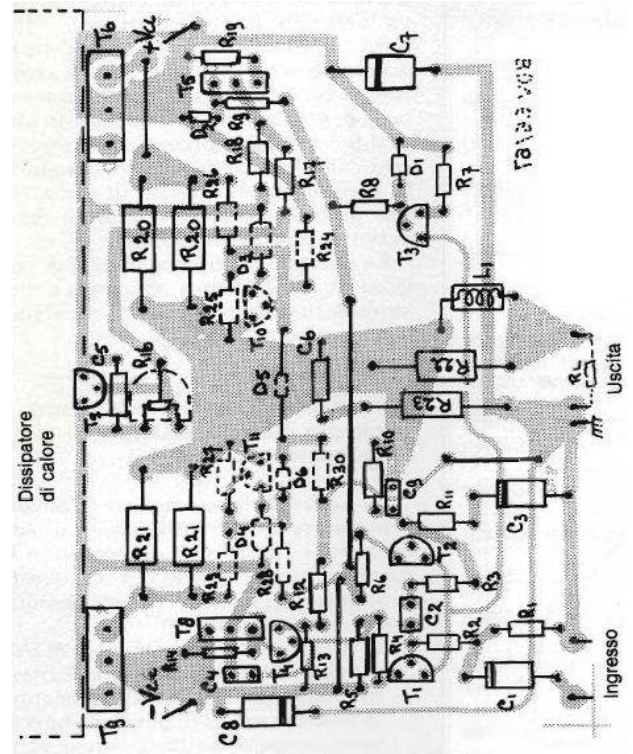
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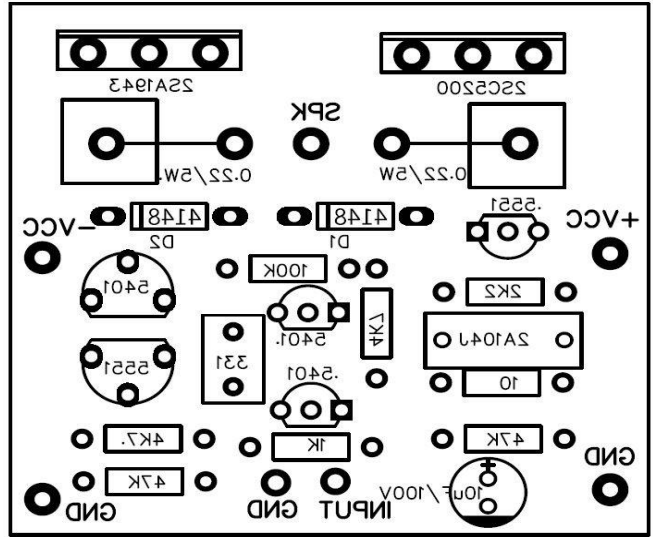
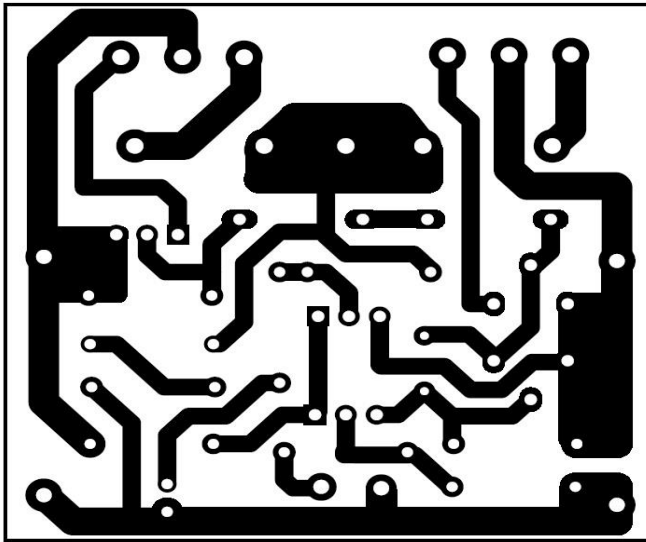
1. $R_L' = 0,8 R_L$

2. $R_{\text{th h-a}} = R_{\text{th j-a}} - R_{\text{th bm-h}} - R_{\text{th j-bm}}$ ($R_{\text{th bm-h}} = 0,8/\text{KW}$ per rondella mica + compound)

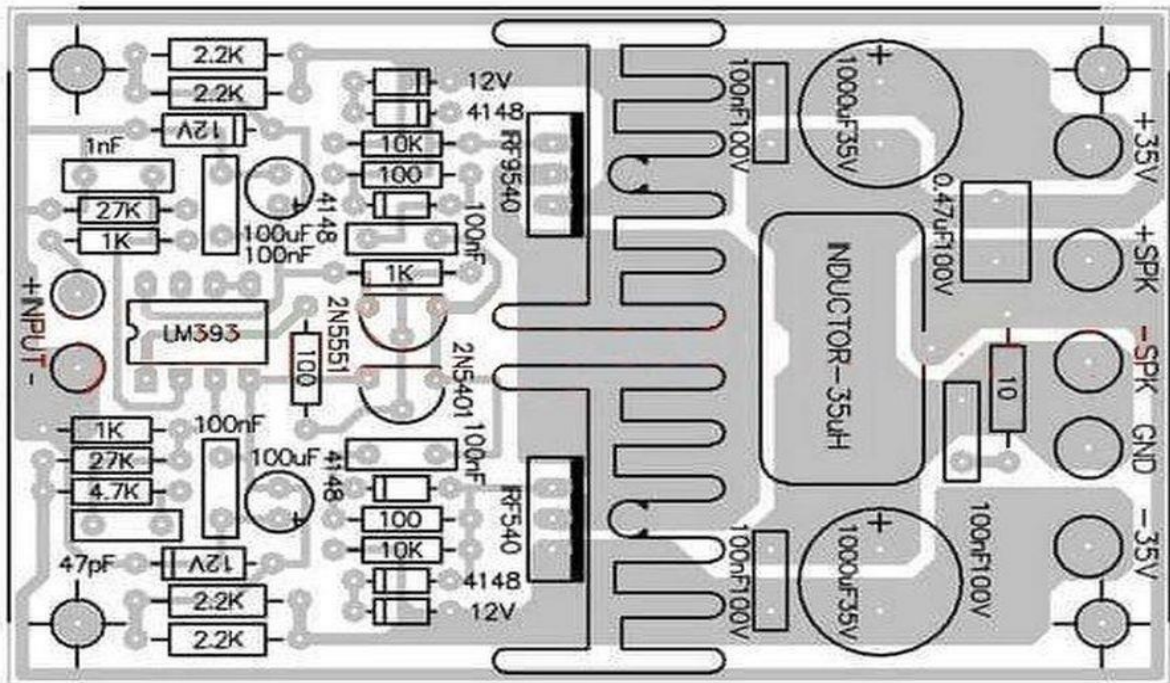
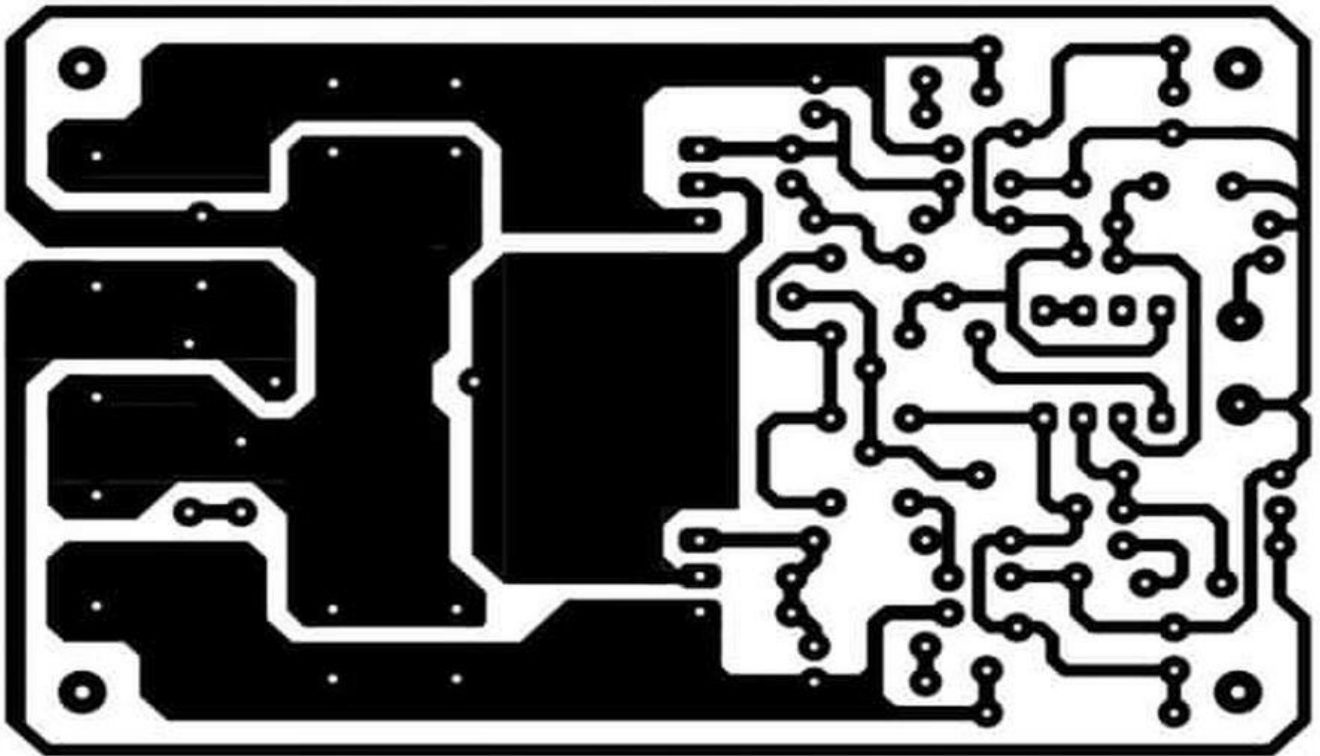


odyo ampli tr 80w 01-01

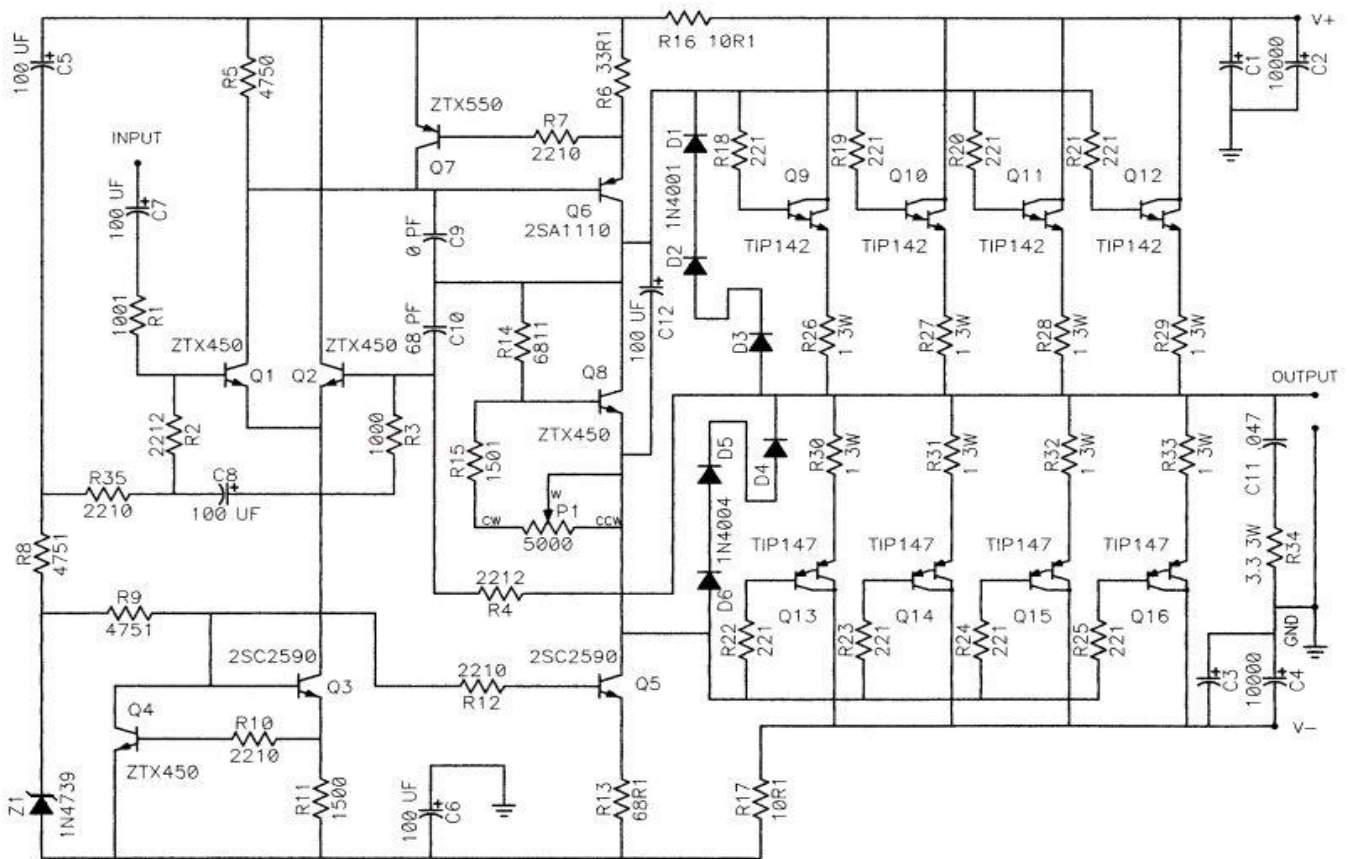




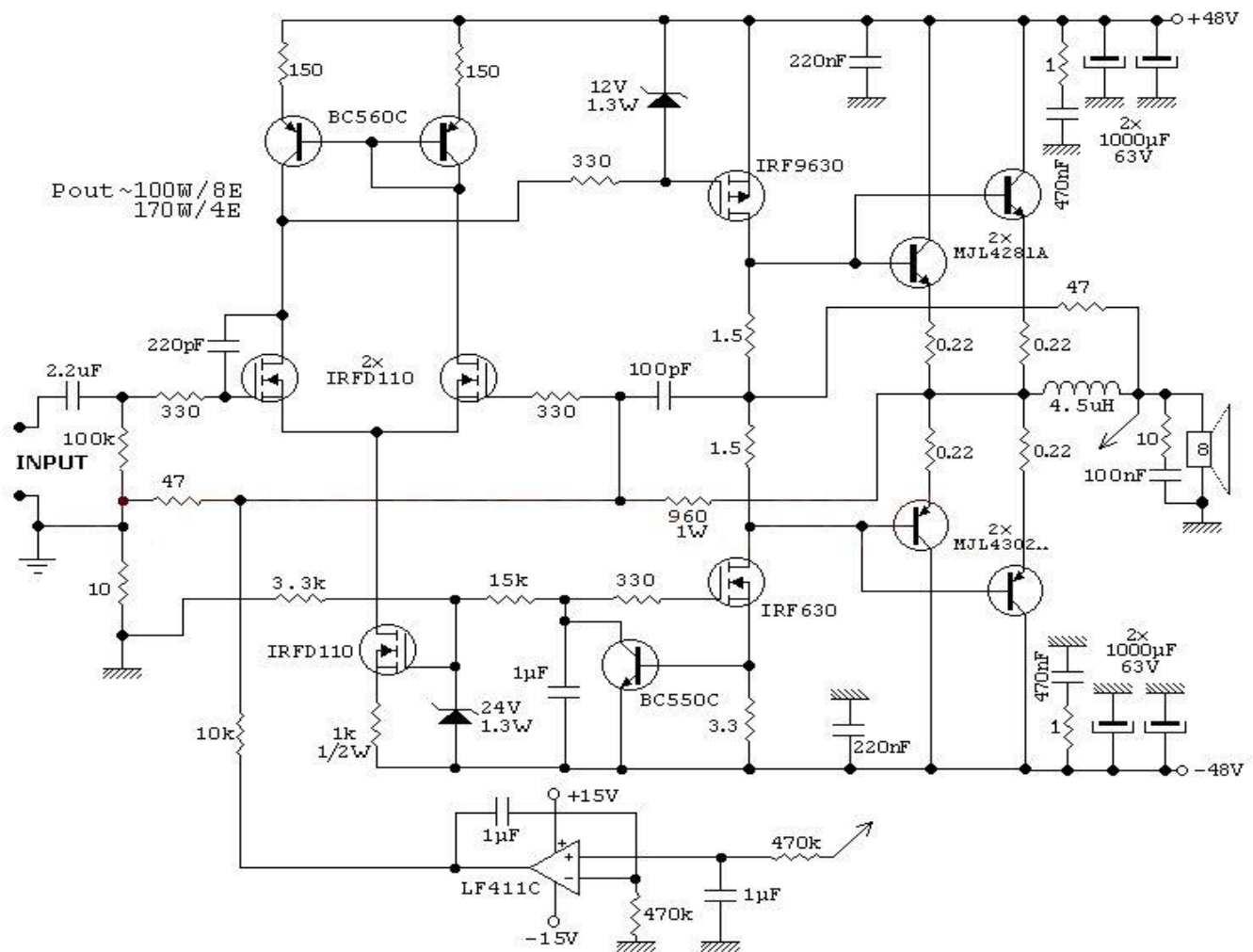
odyo ampli tr 90w 01-01 mos fet 8 ohm



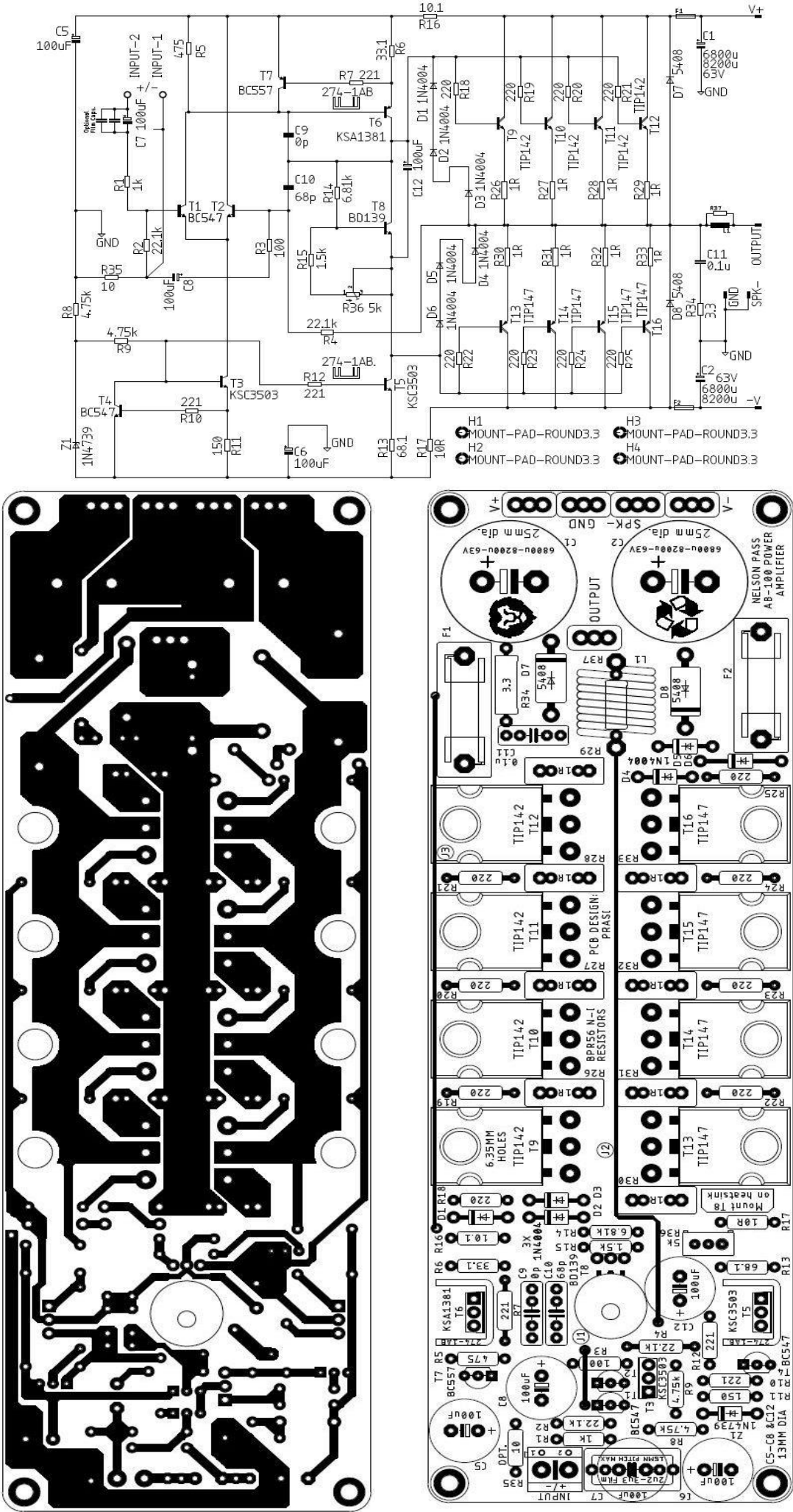
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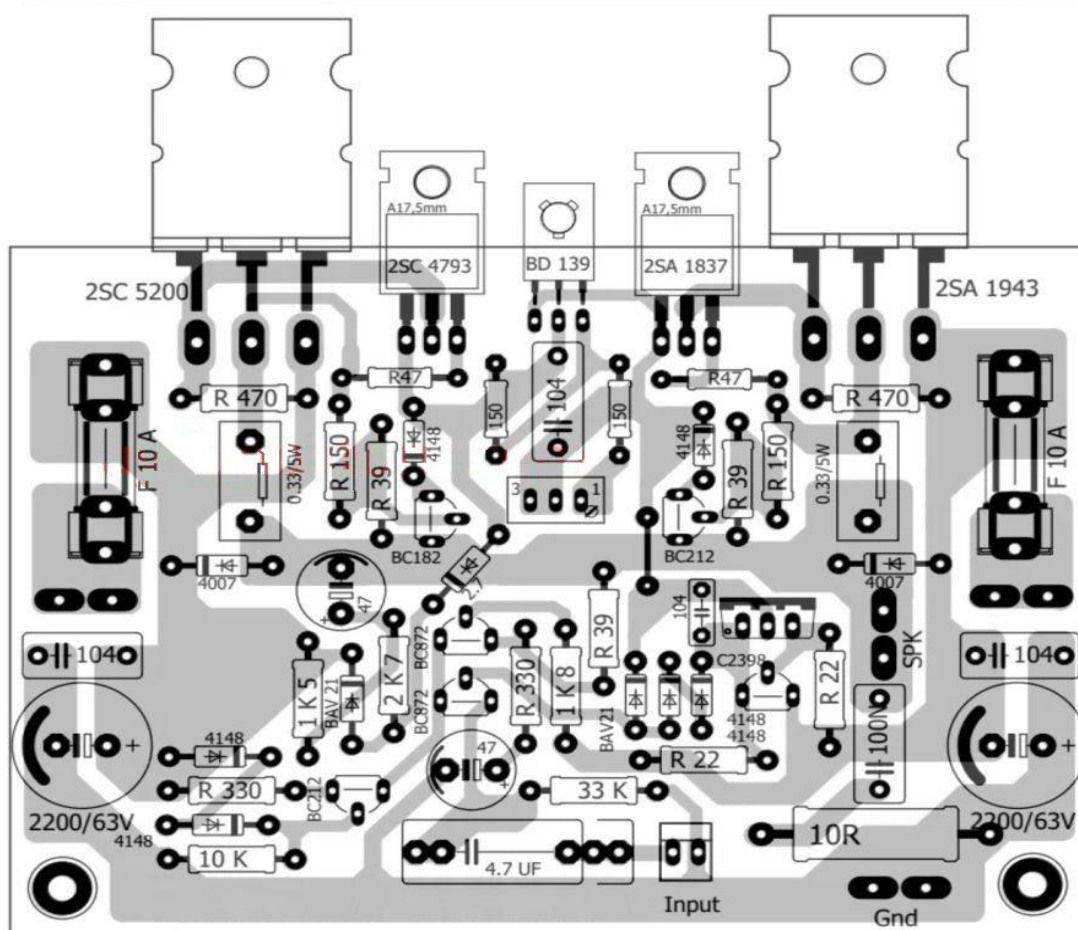
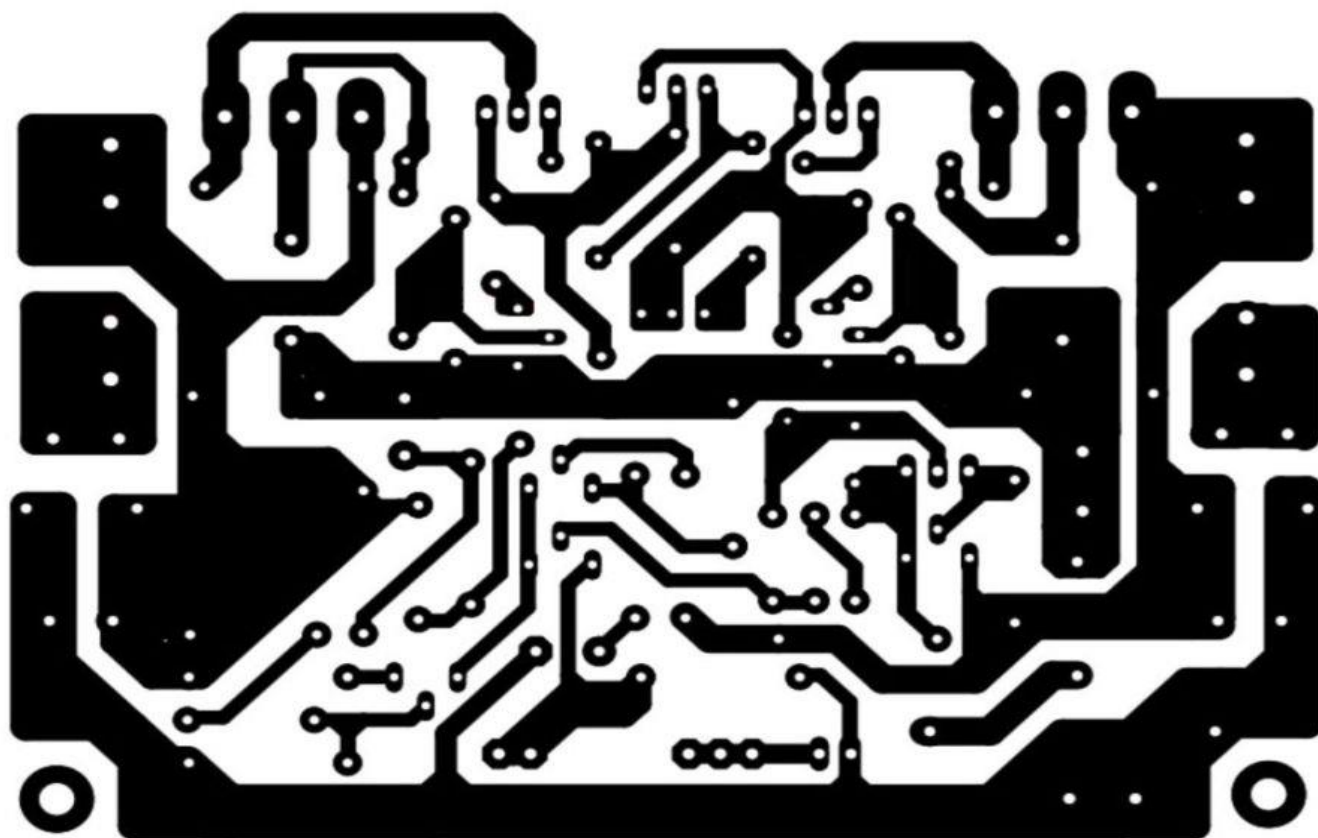


odyo ampli tr 100w 02-01

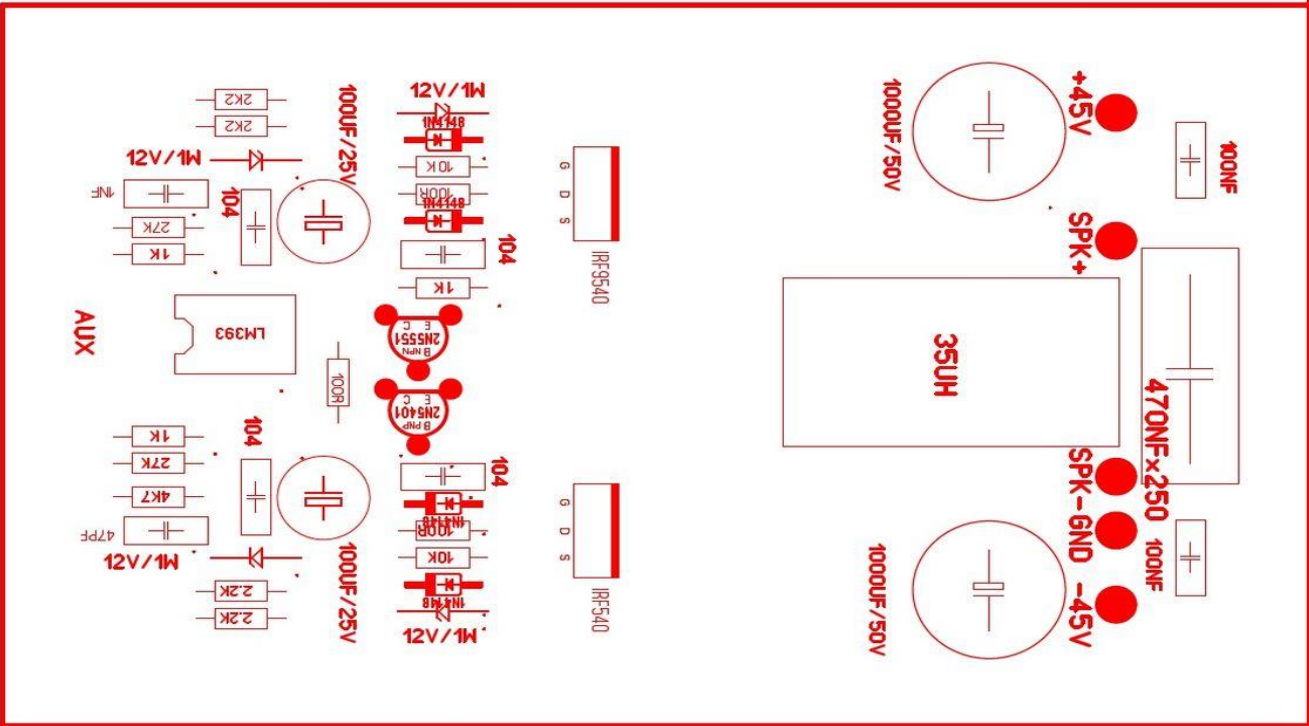
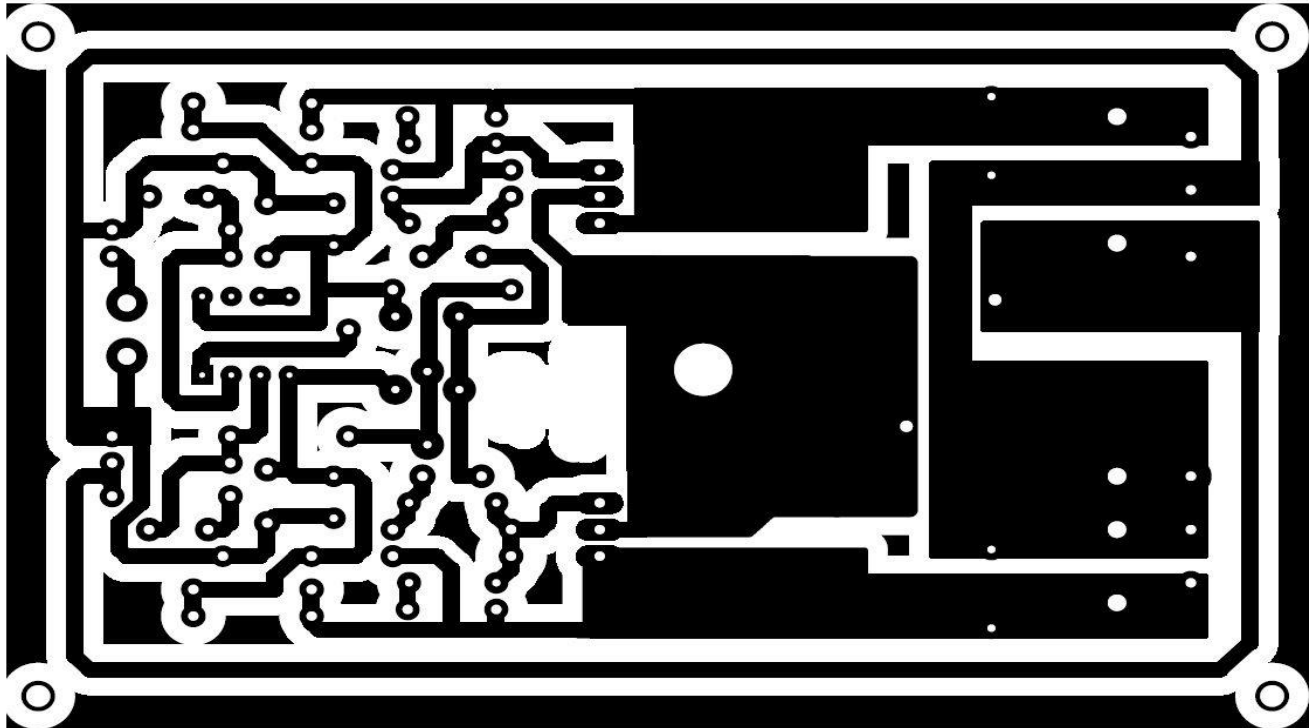


odyo ampli tr 100w 03-01

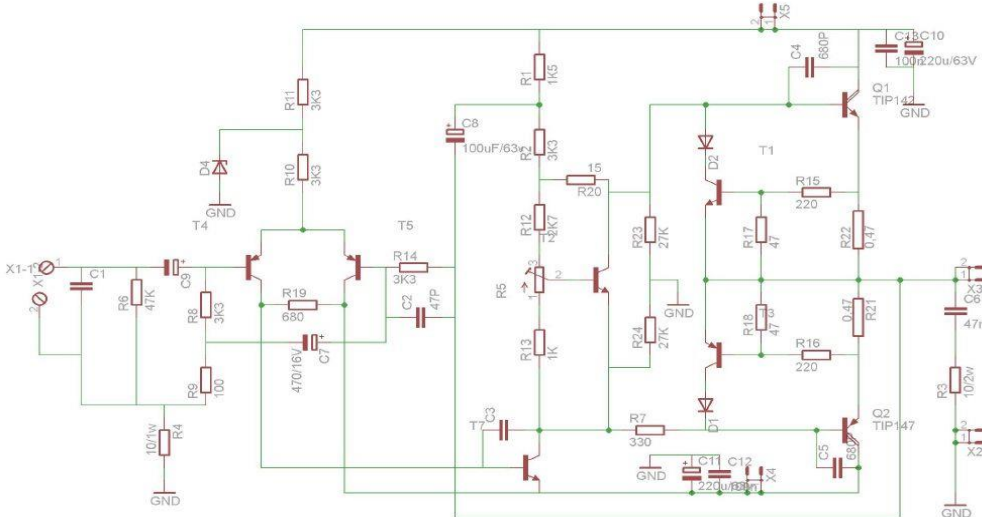


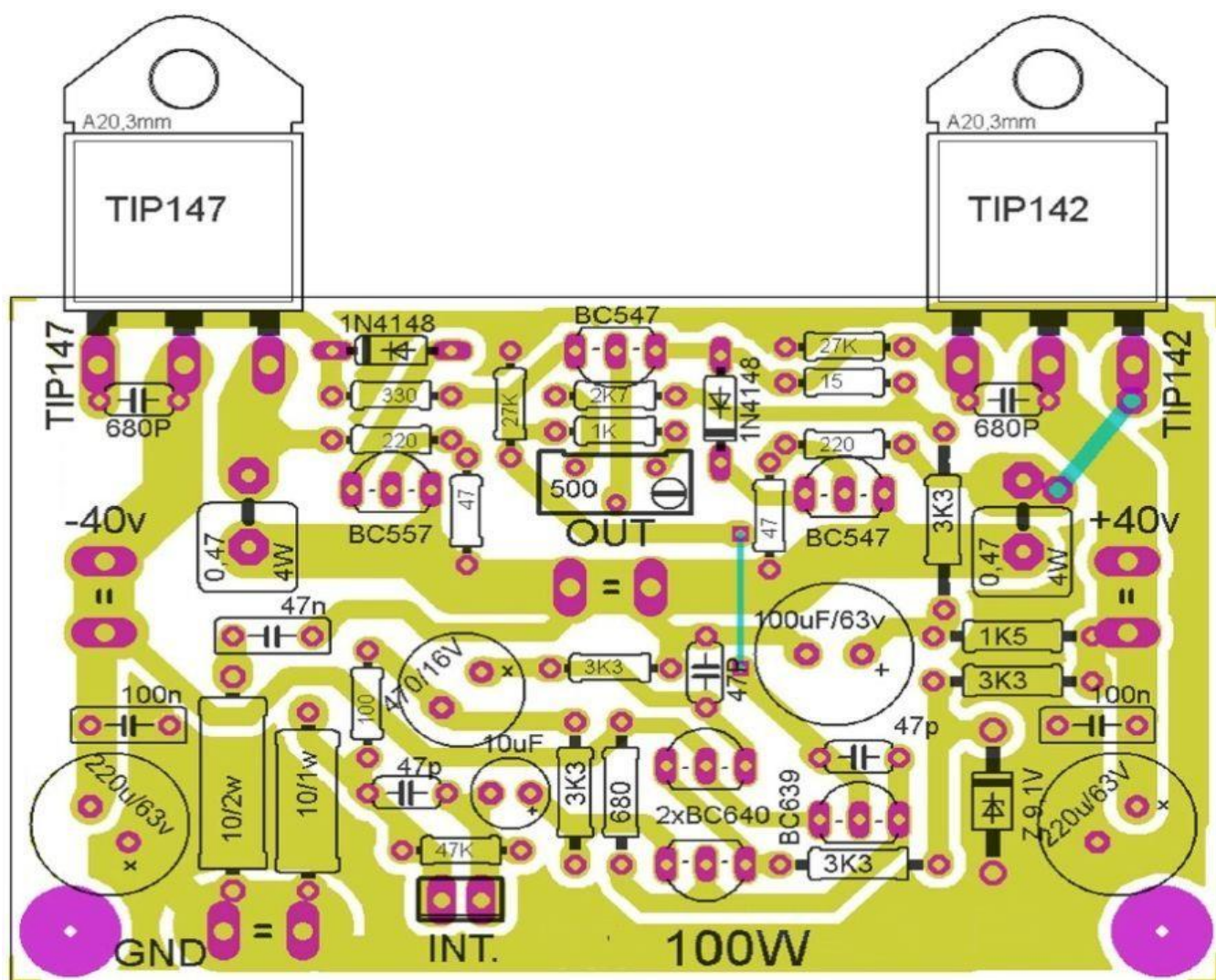
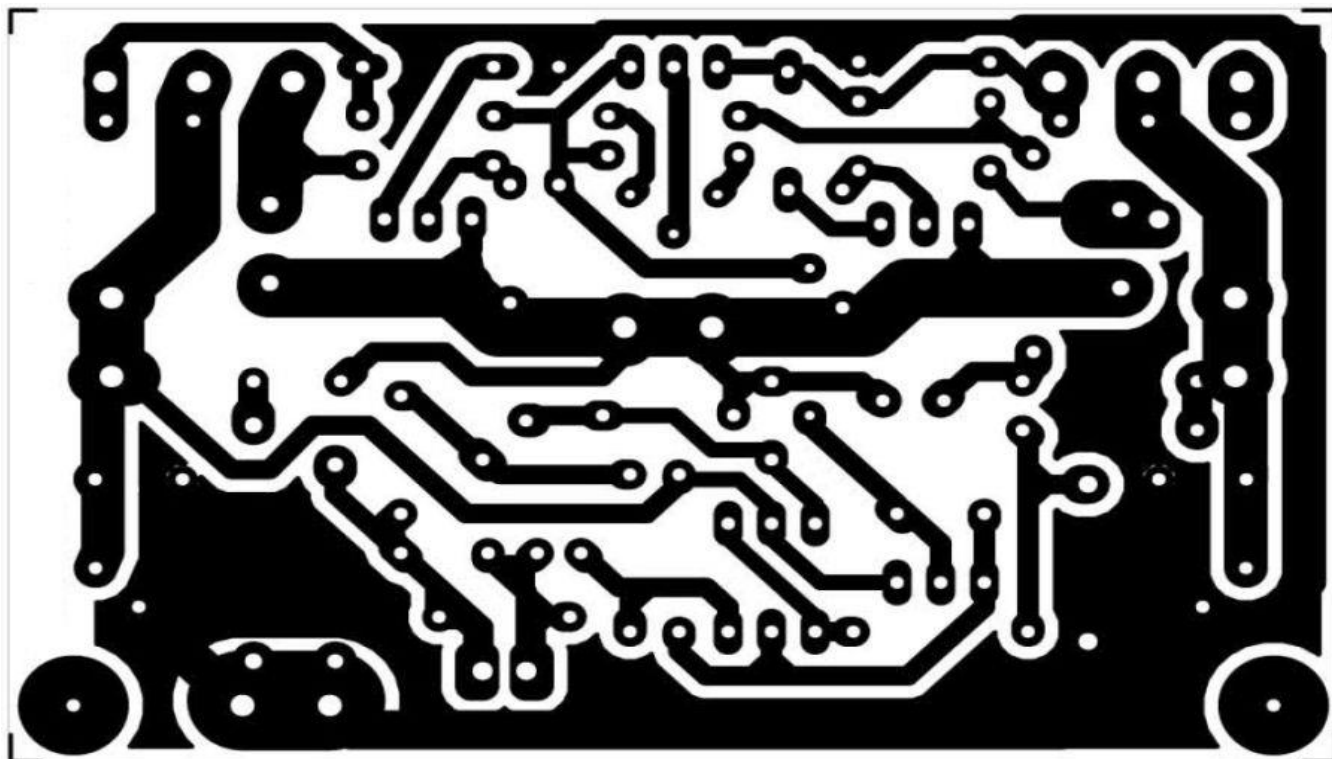


odyo ampli tr 100w 05-01clas d

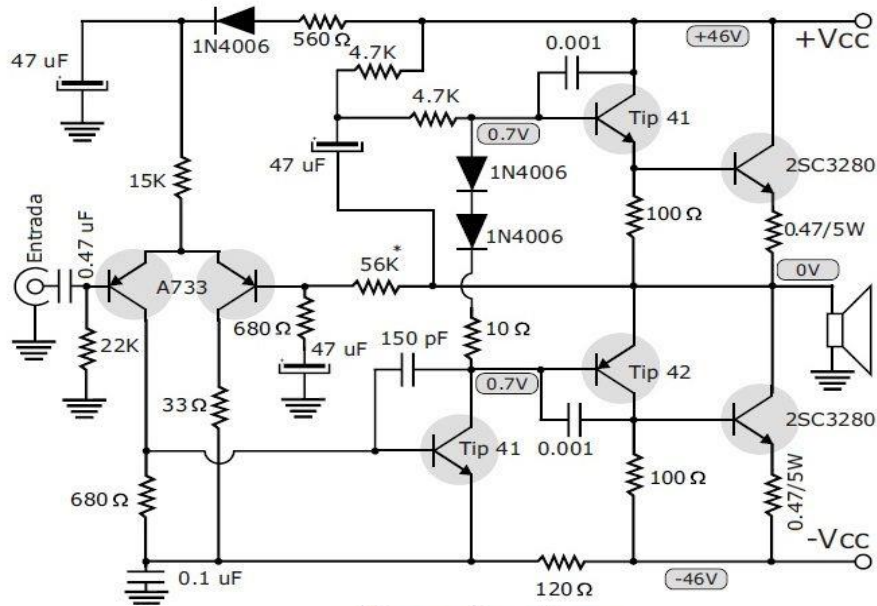


odyo ampli tr 100w 06-01 darlington

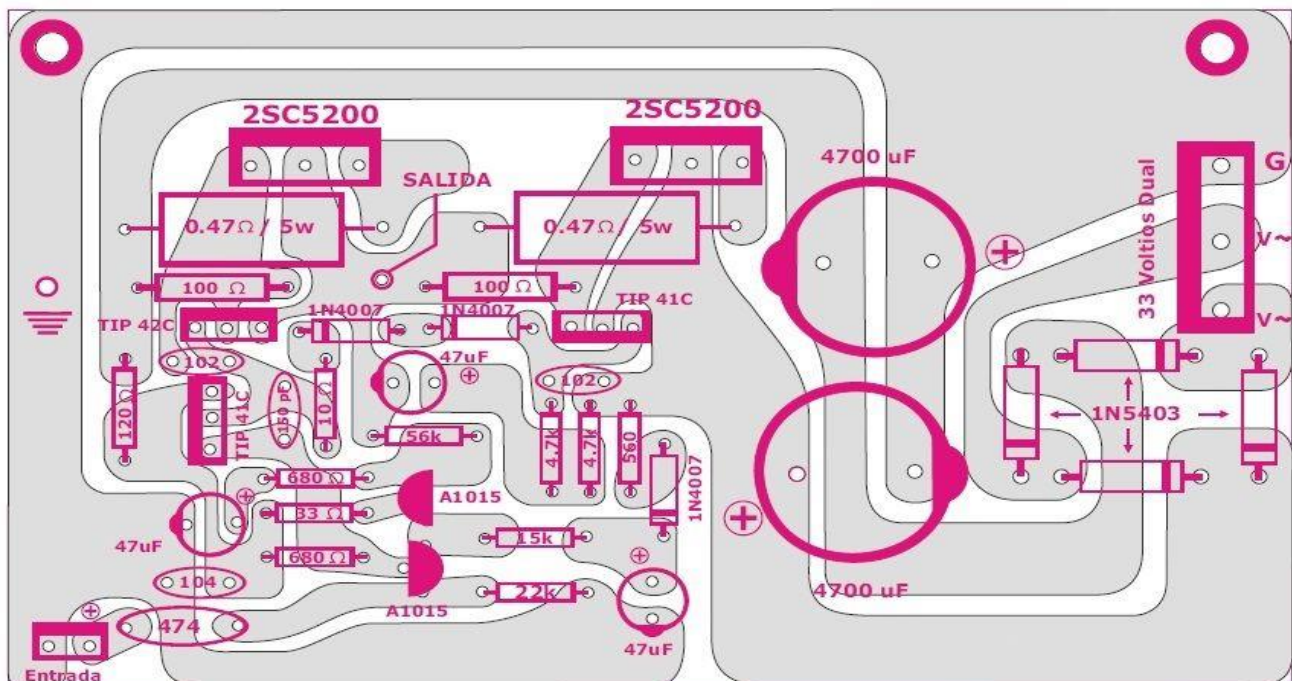
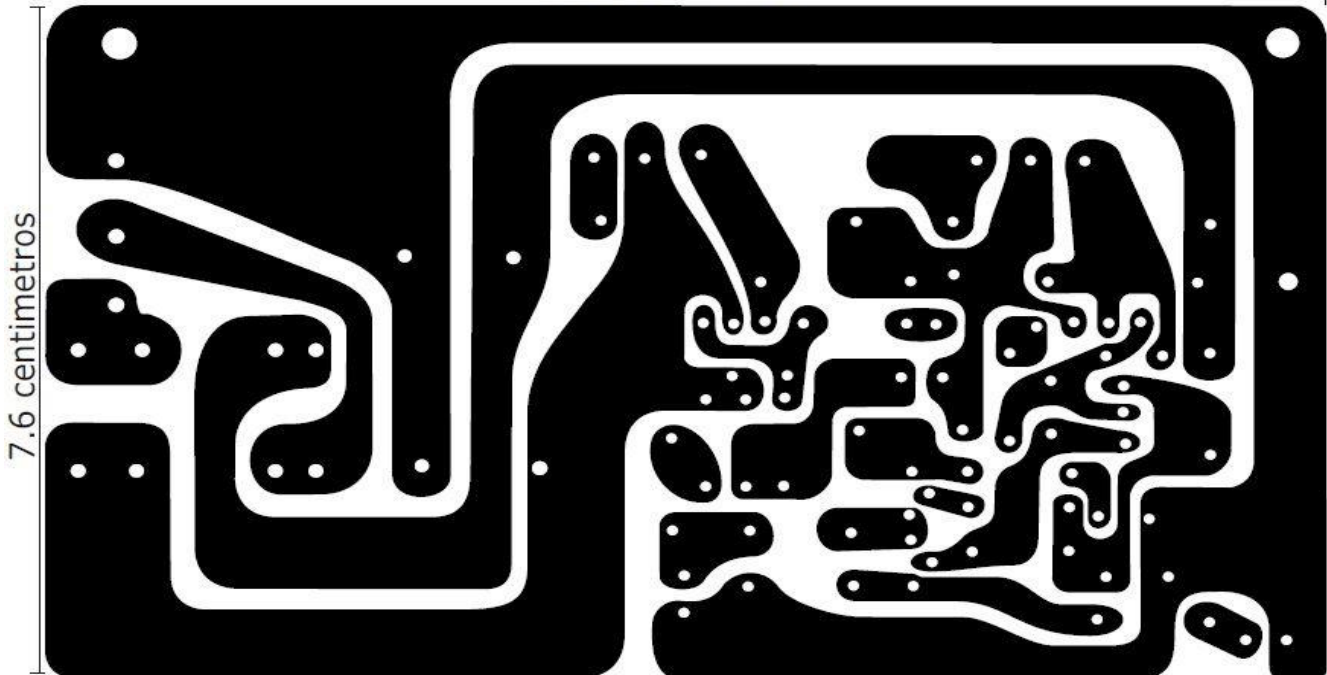




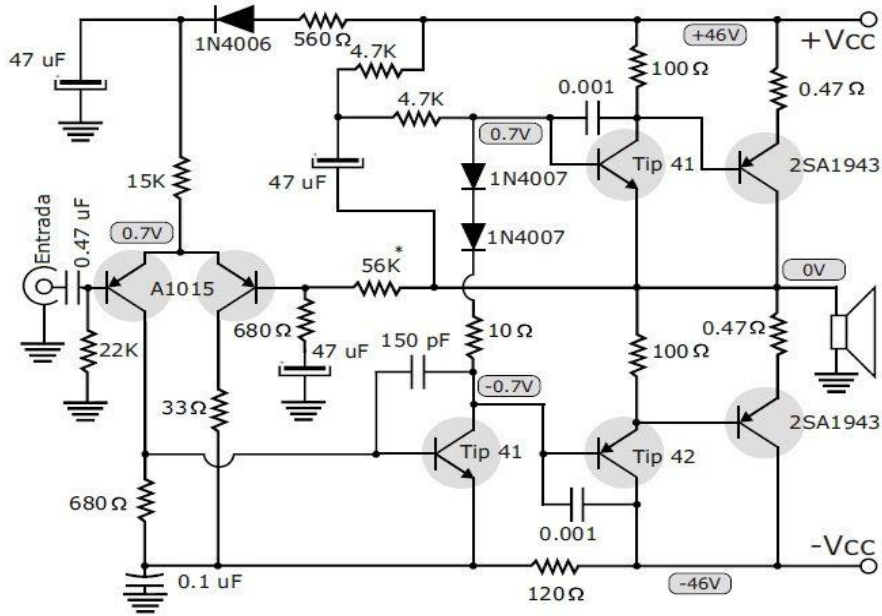
odyo ampli tr 100w 07-01 npn



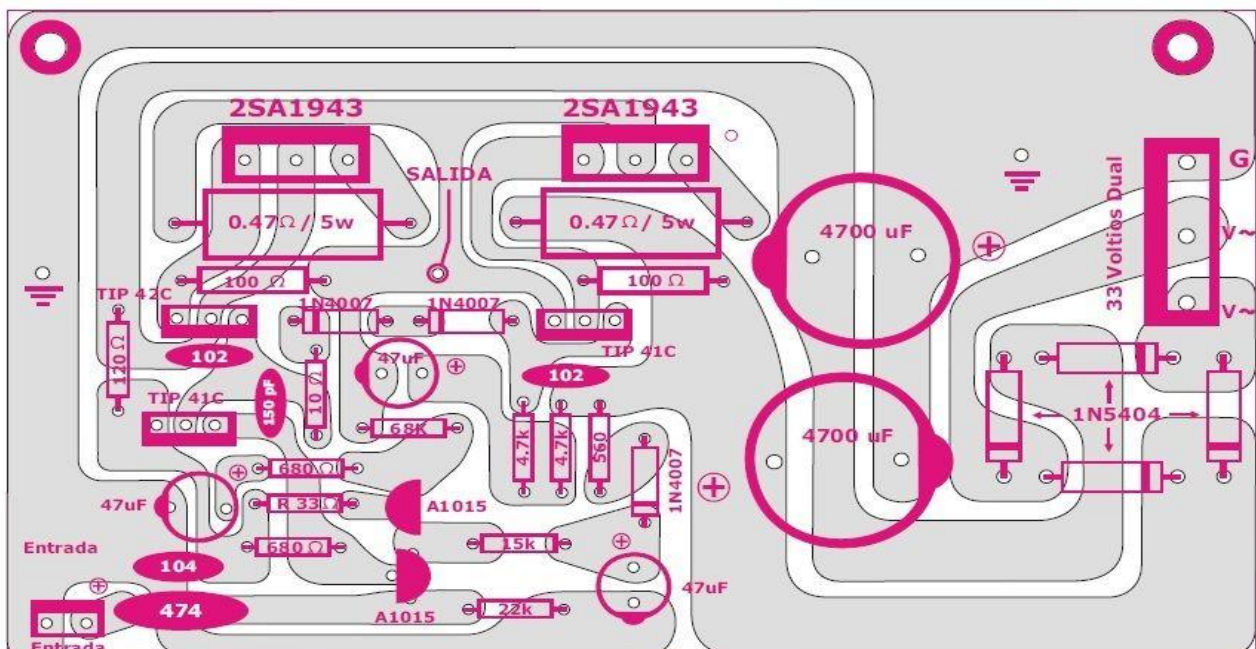
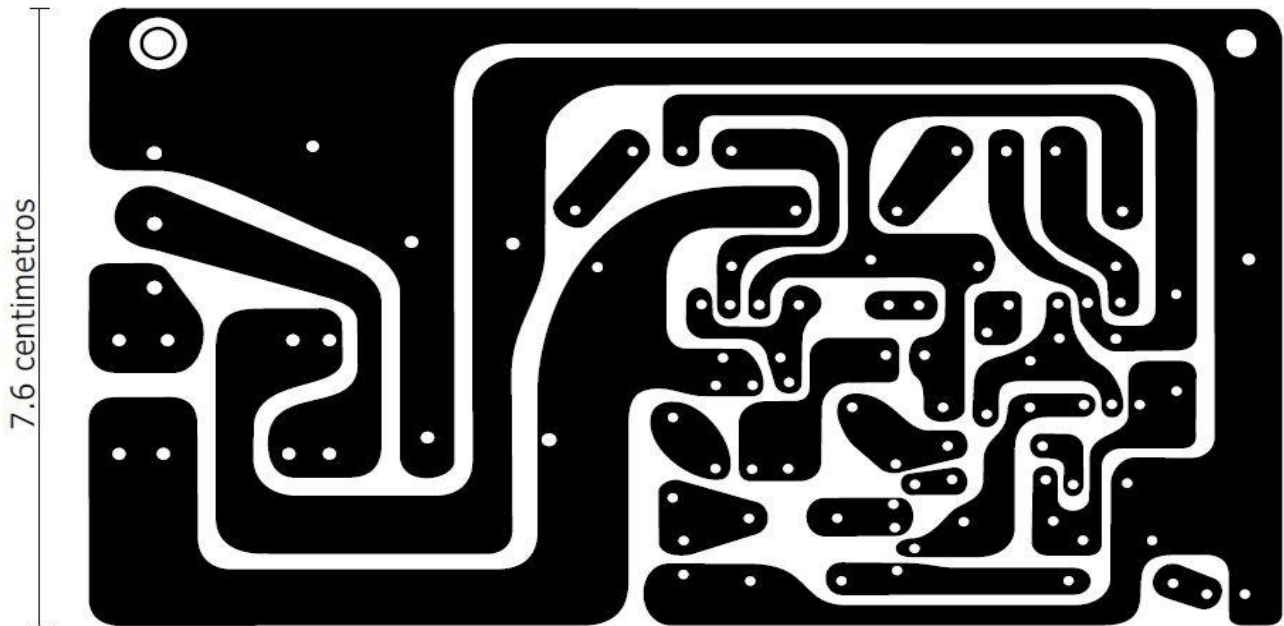
13 centímetros



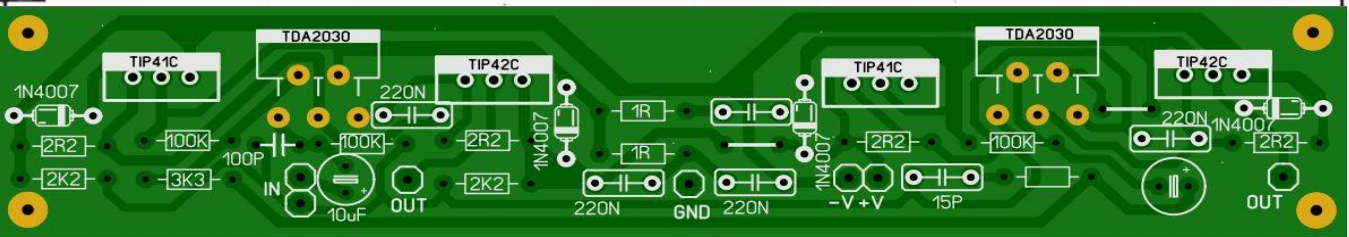
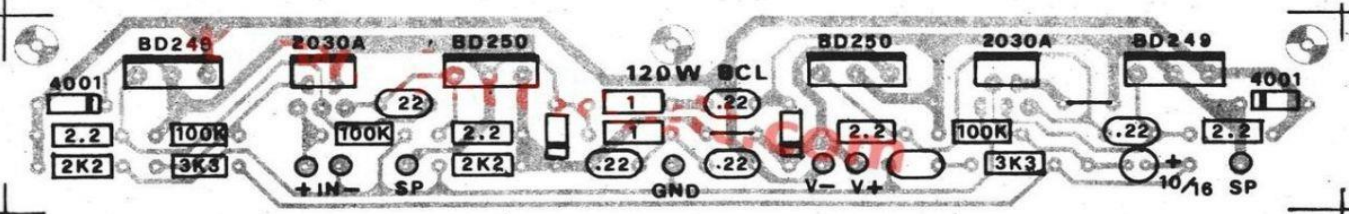
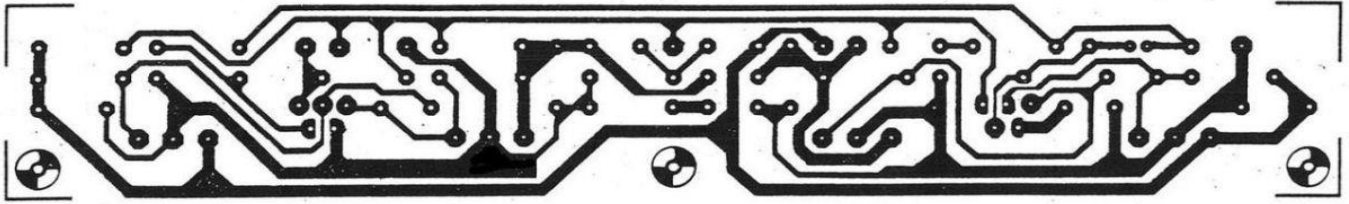
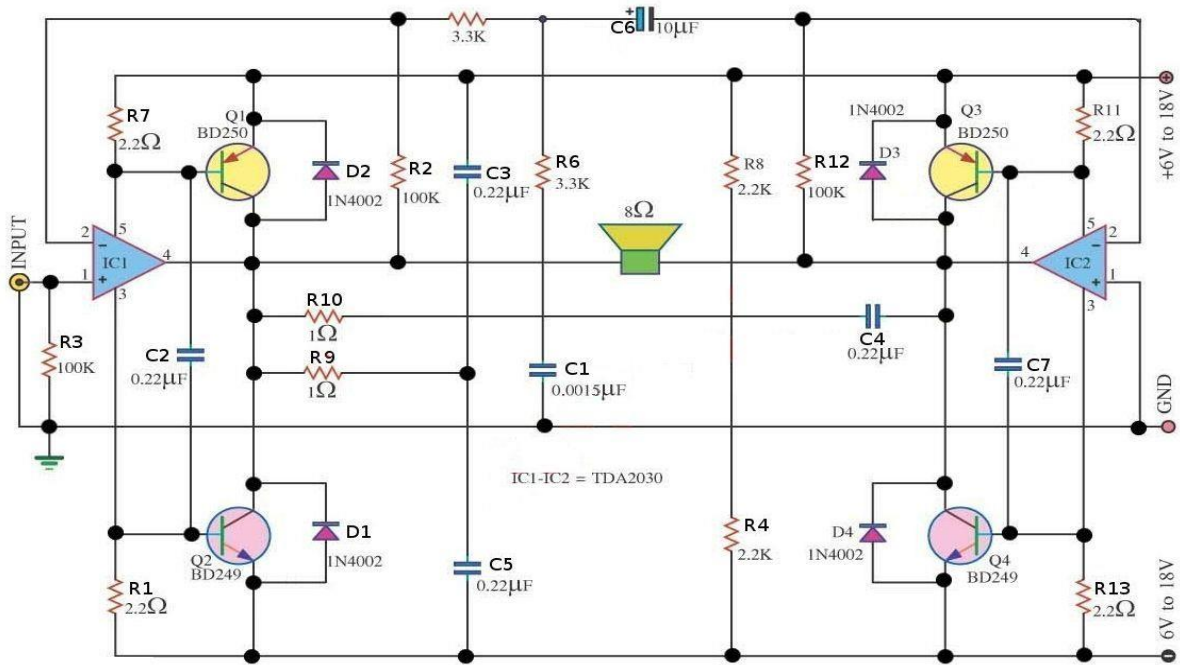
odyo ampli tr 100w 07-05 pnp



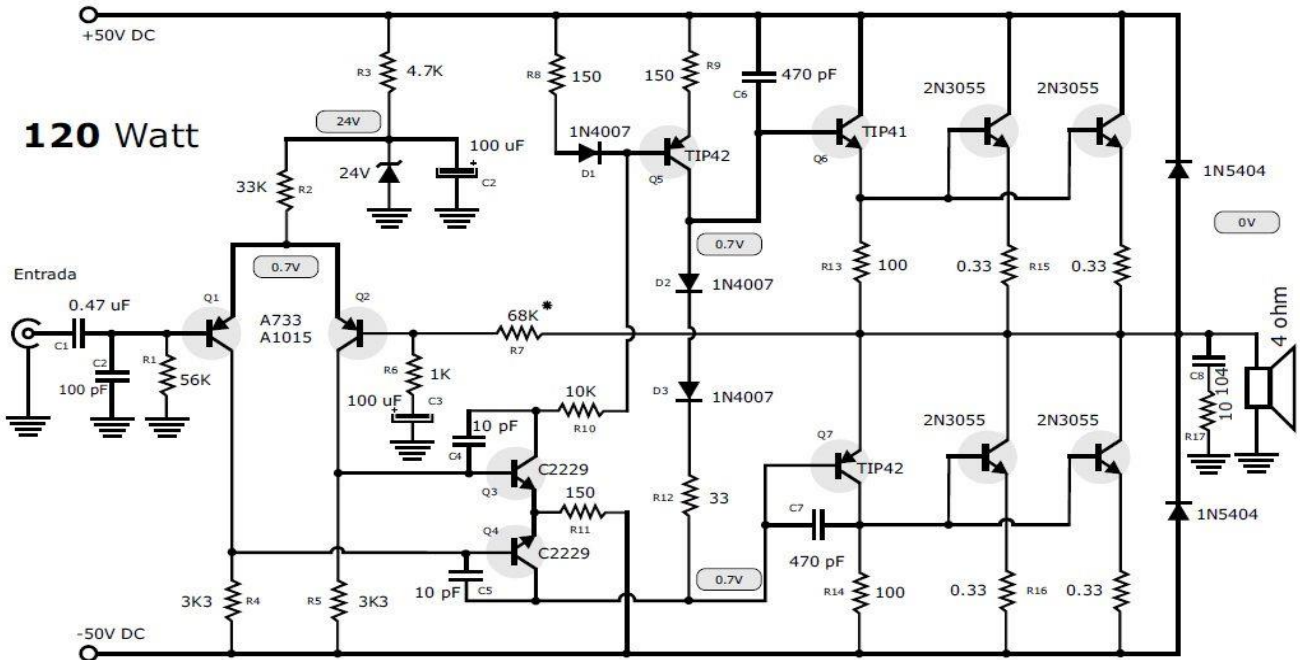
13 centímetros



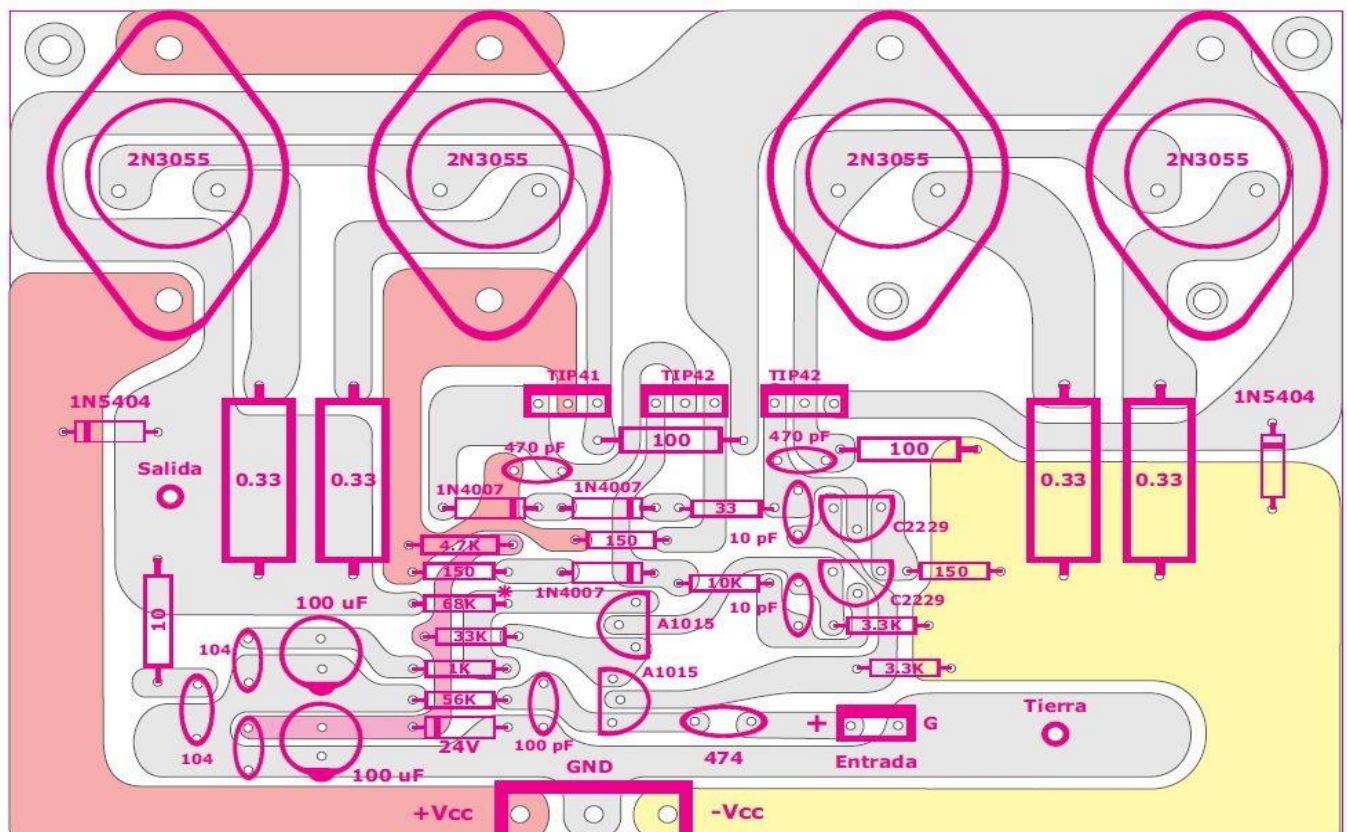
odyo ampli tr 120w 01-01 tr + tda2030a

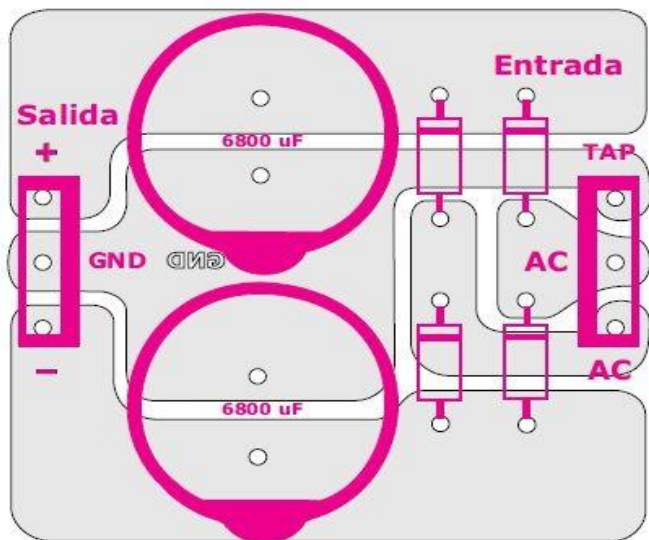
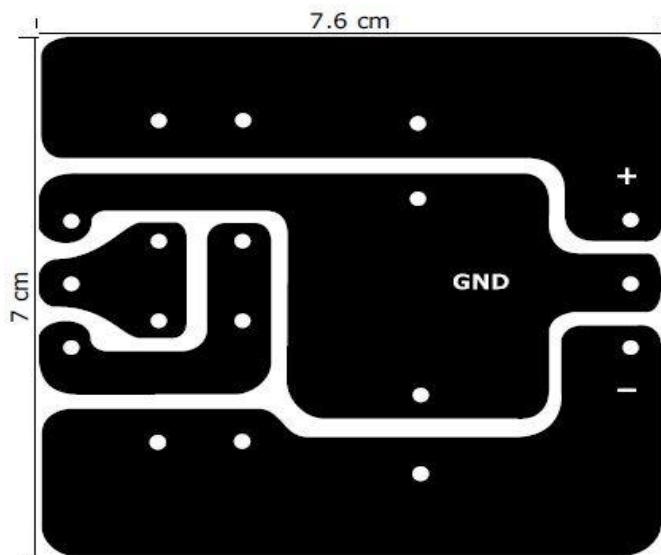


odyo ampli tr 120w 02-01

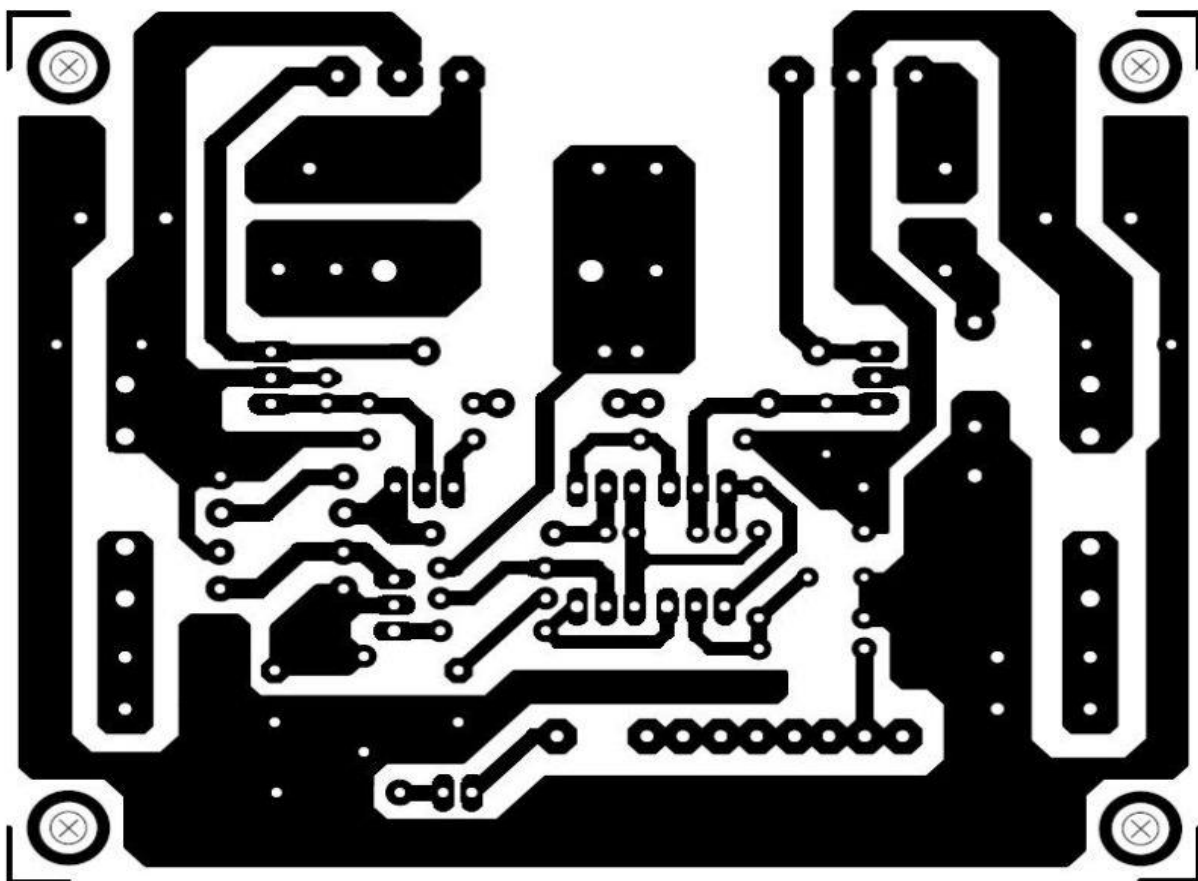
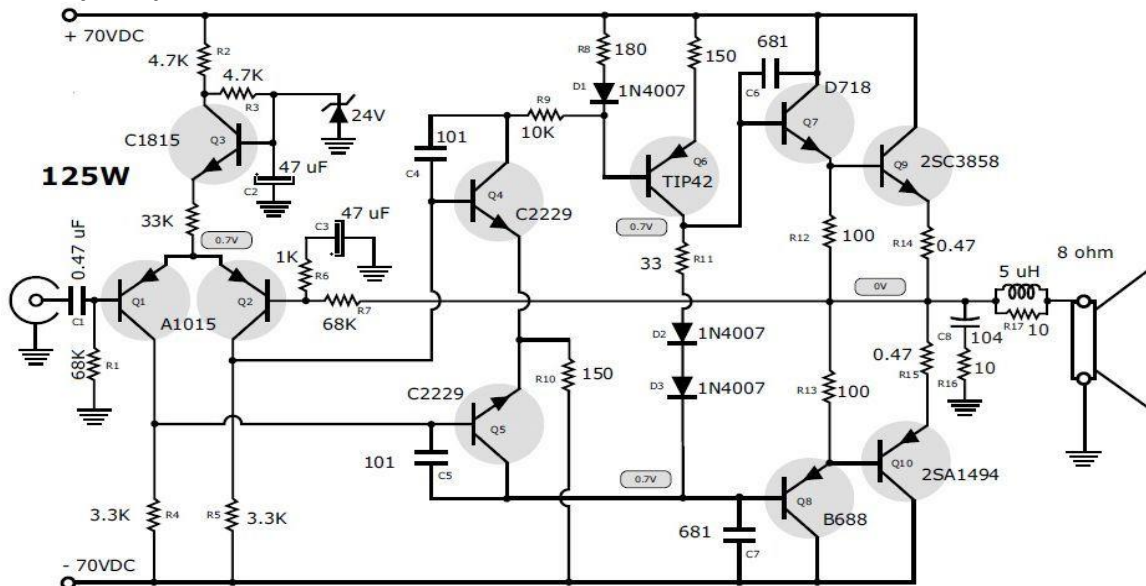


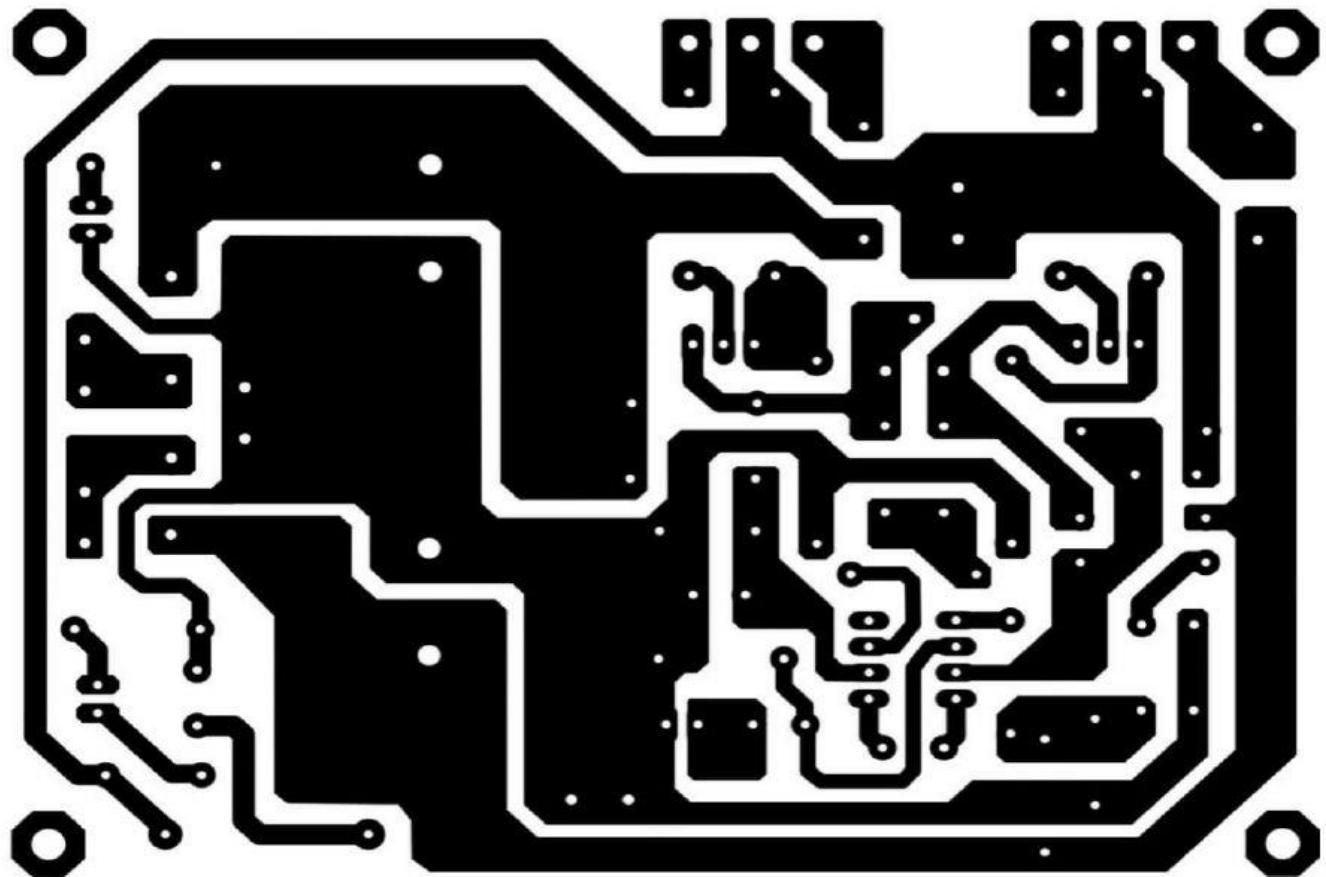
14.9 cm



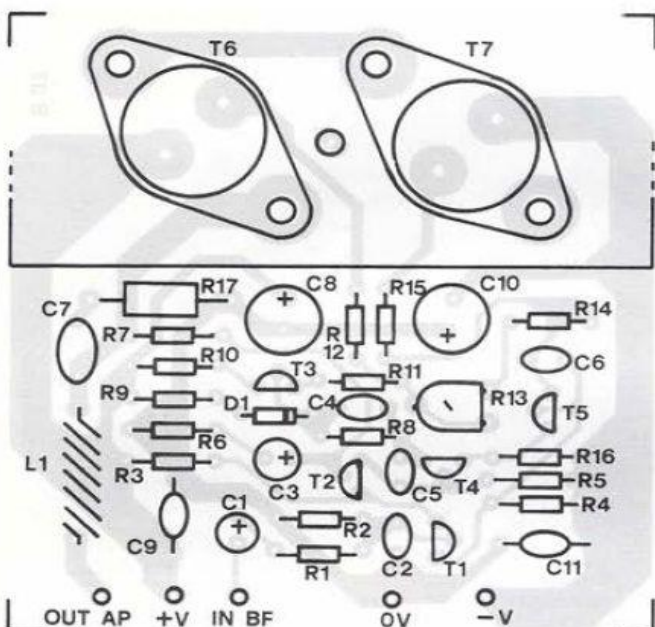
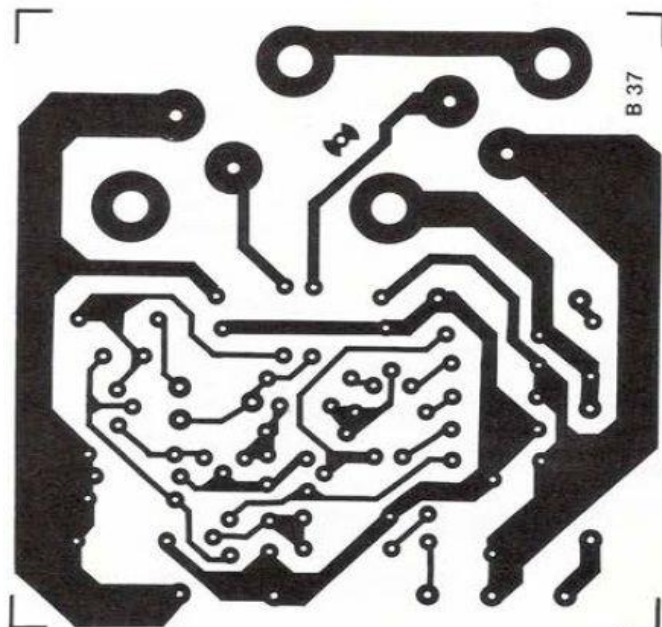
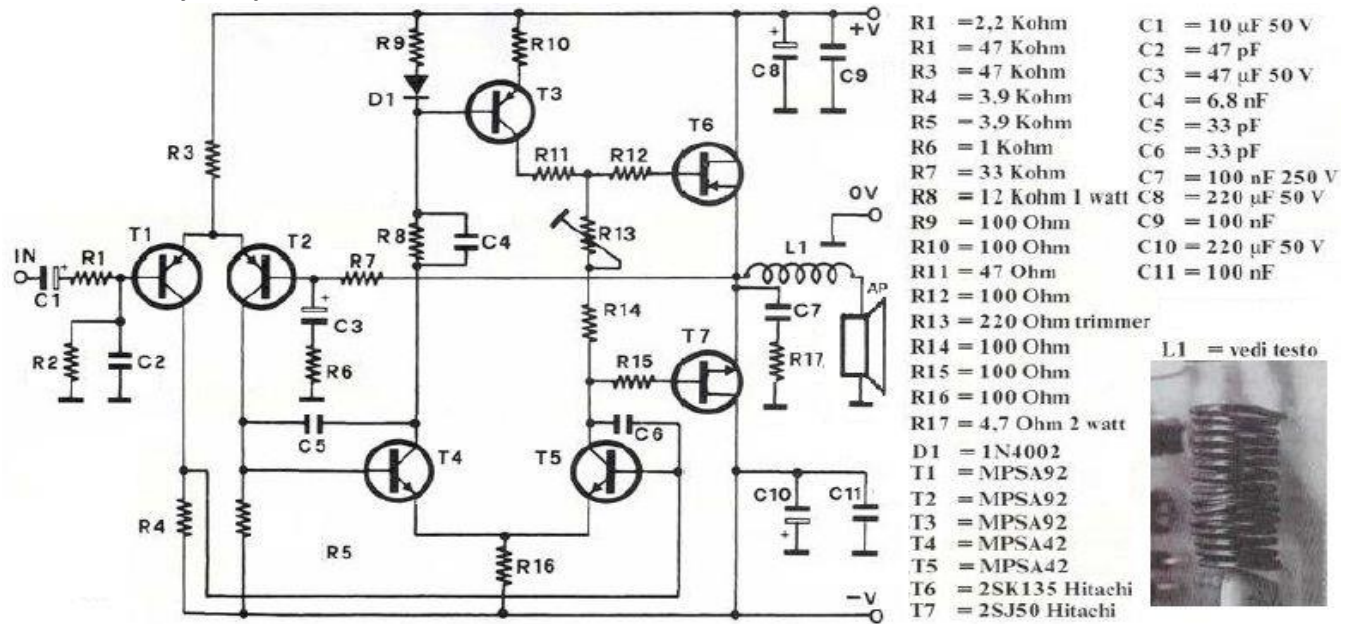


odyo ampli tr 125w 01-01

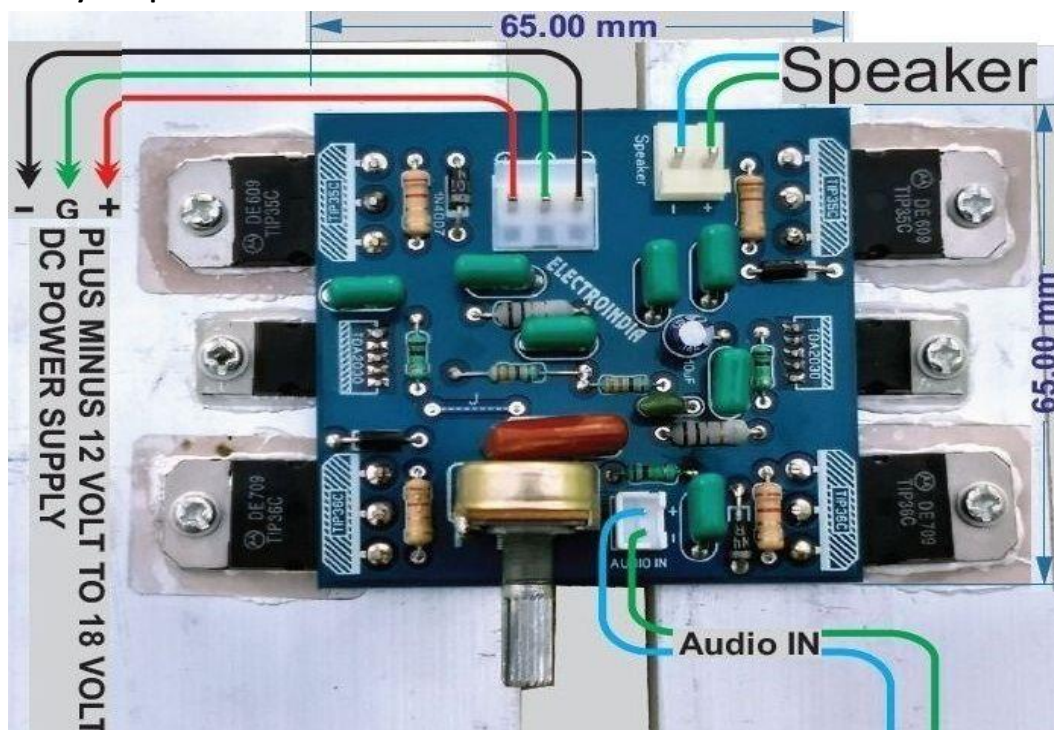


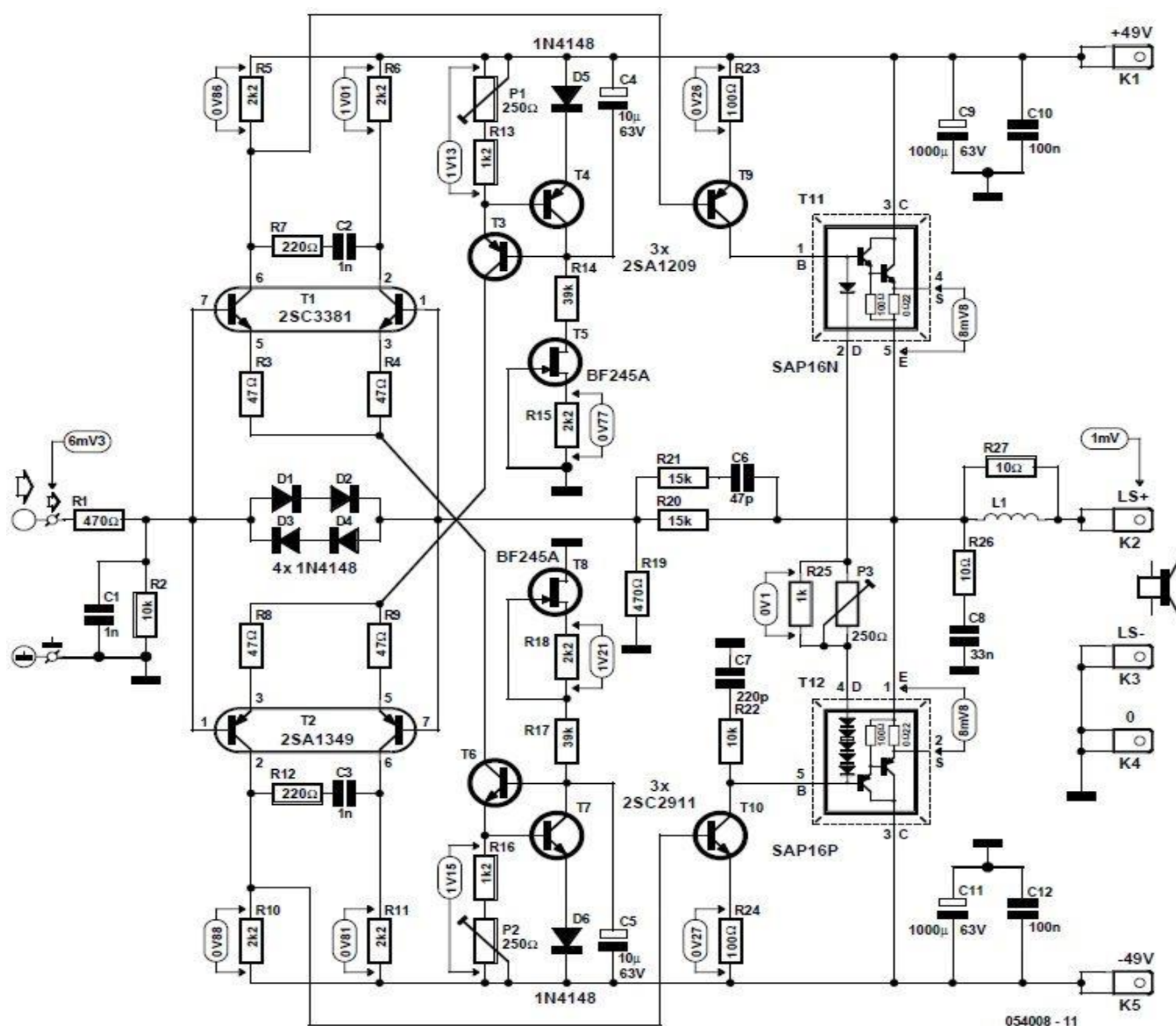


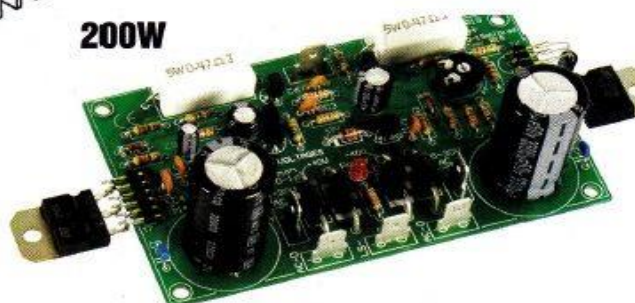
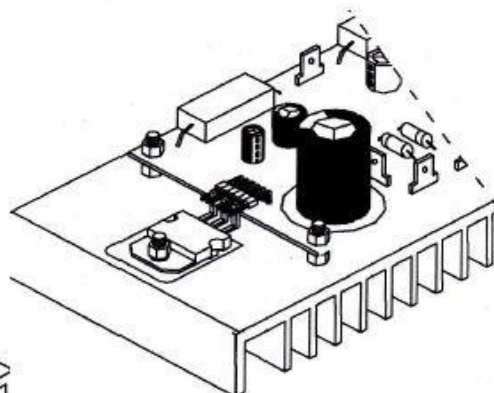
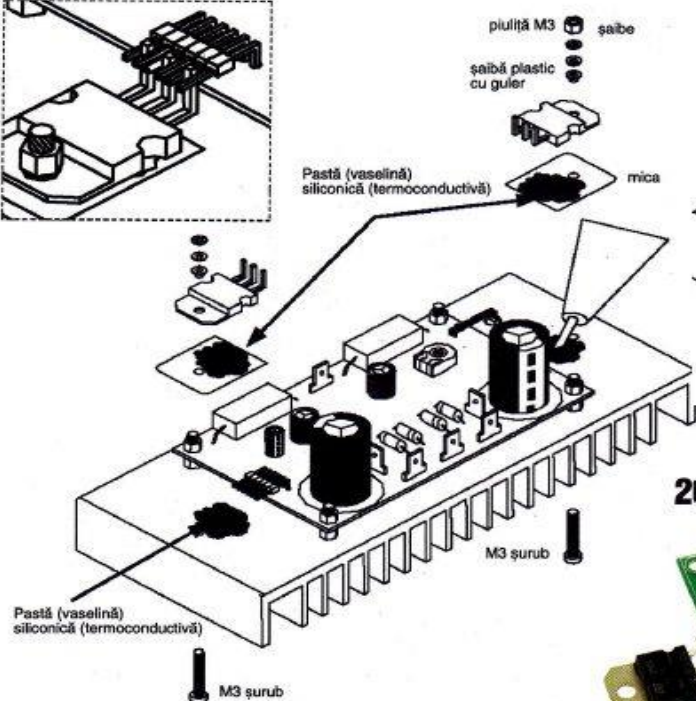
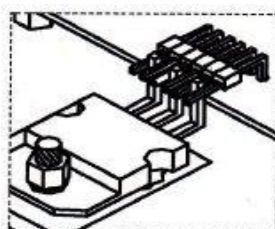
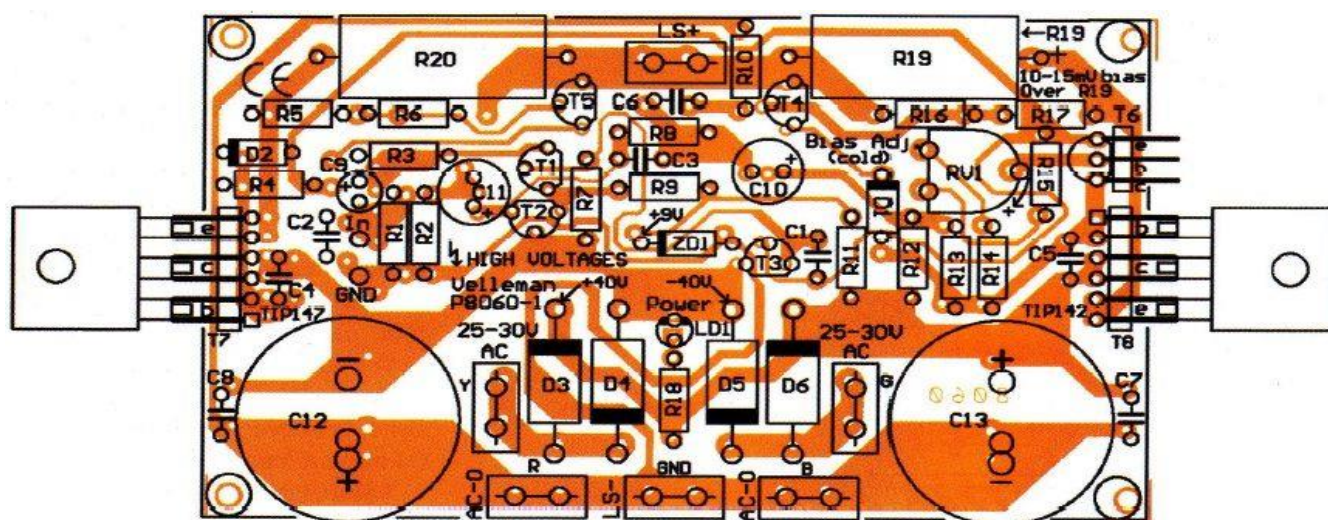
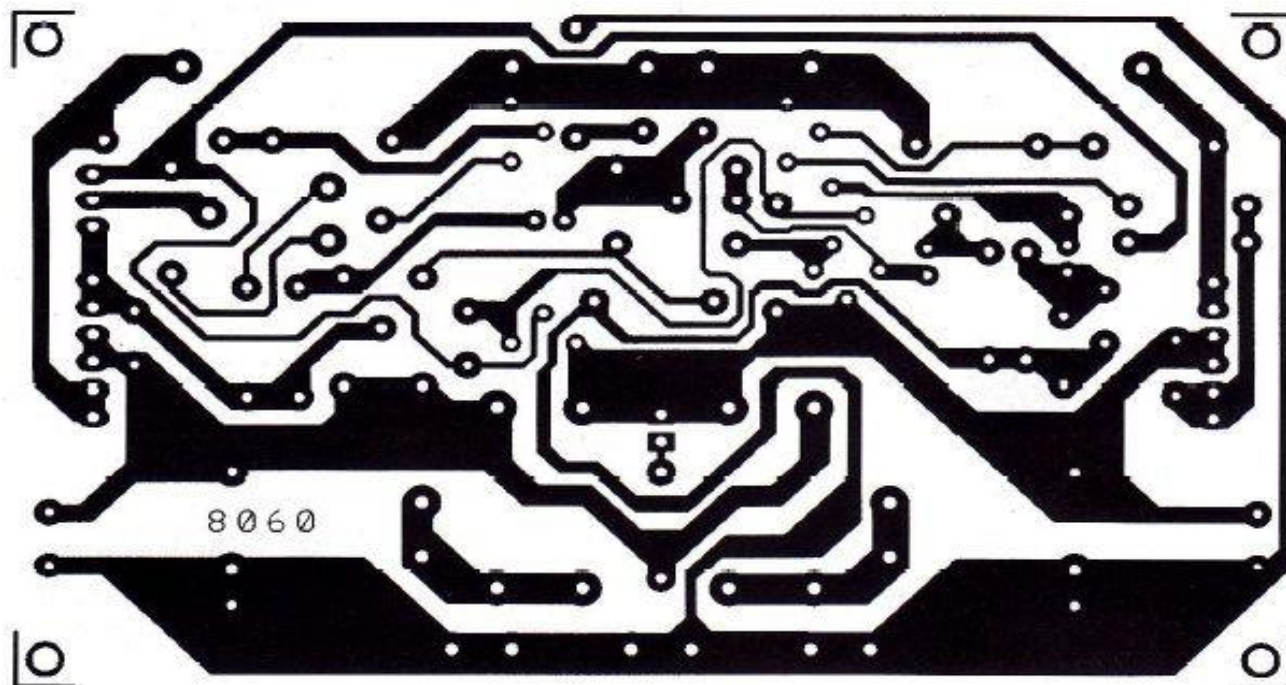
odyo ampli tr 150w 01-01



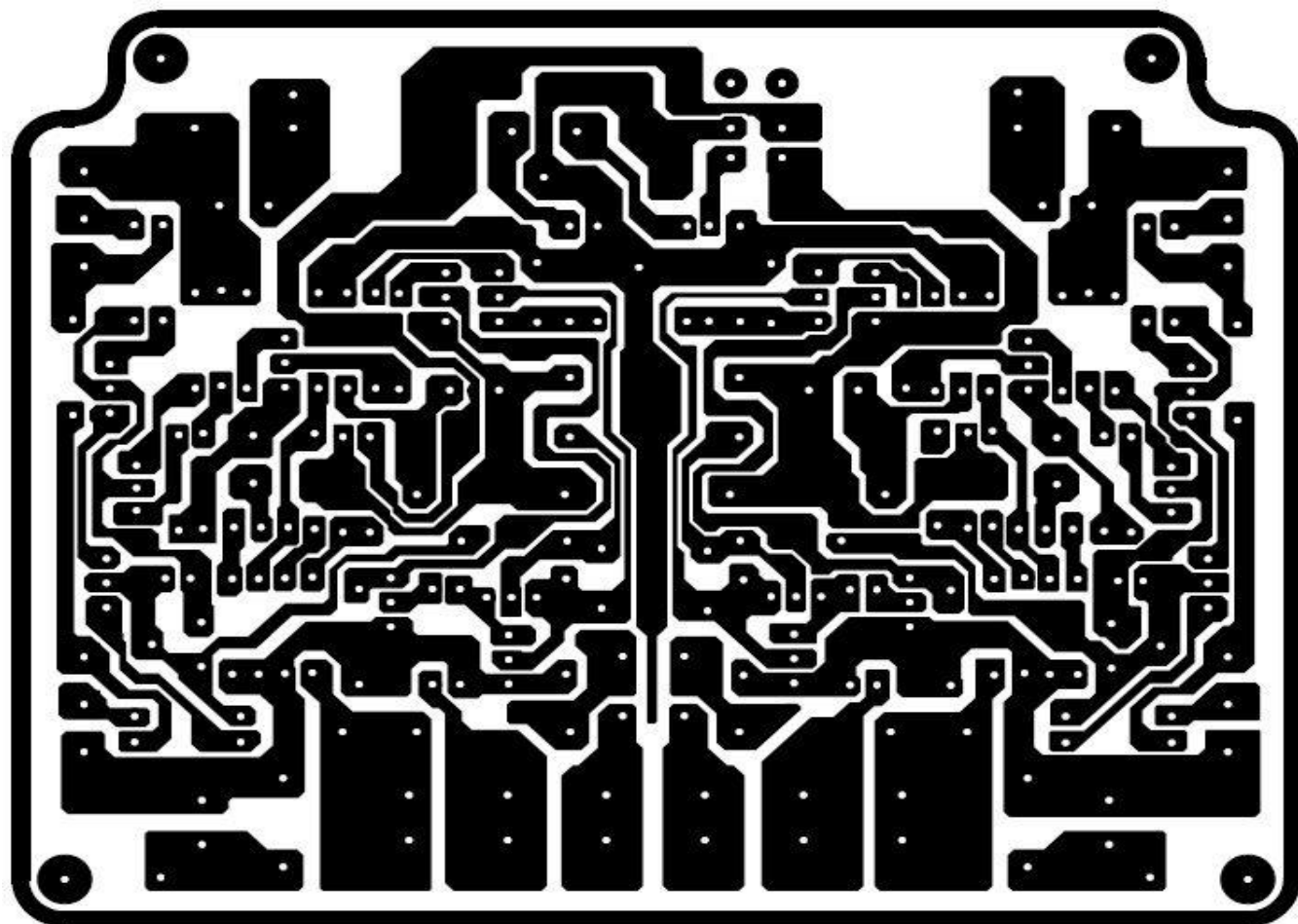
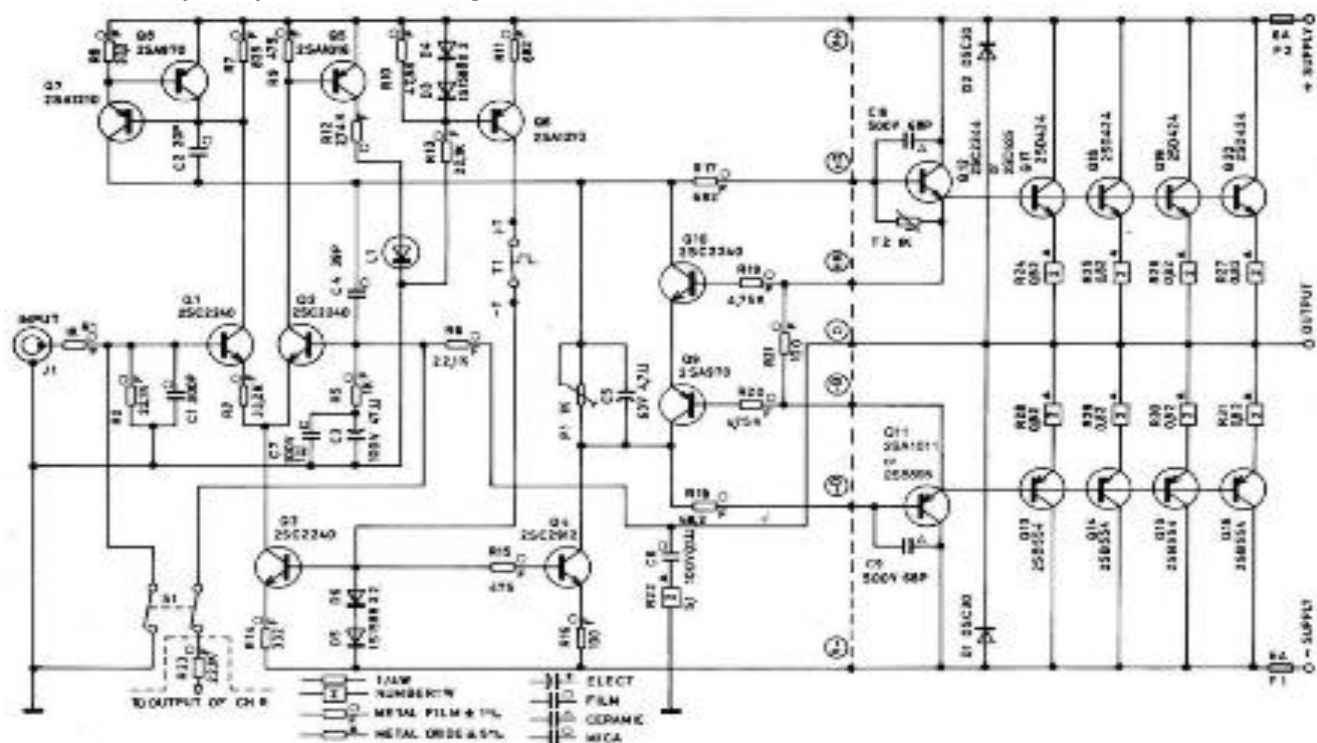
odyo ampli tr 160w 01-01

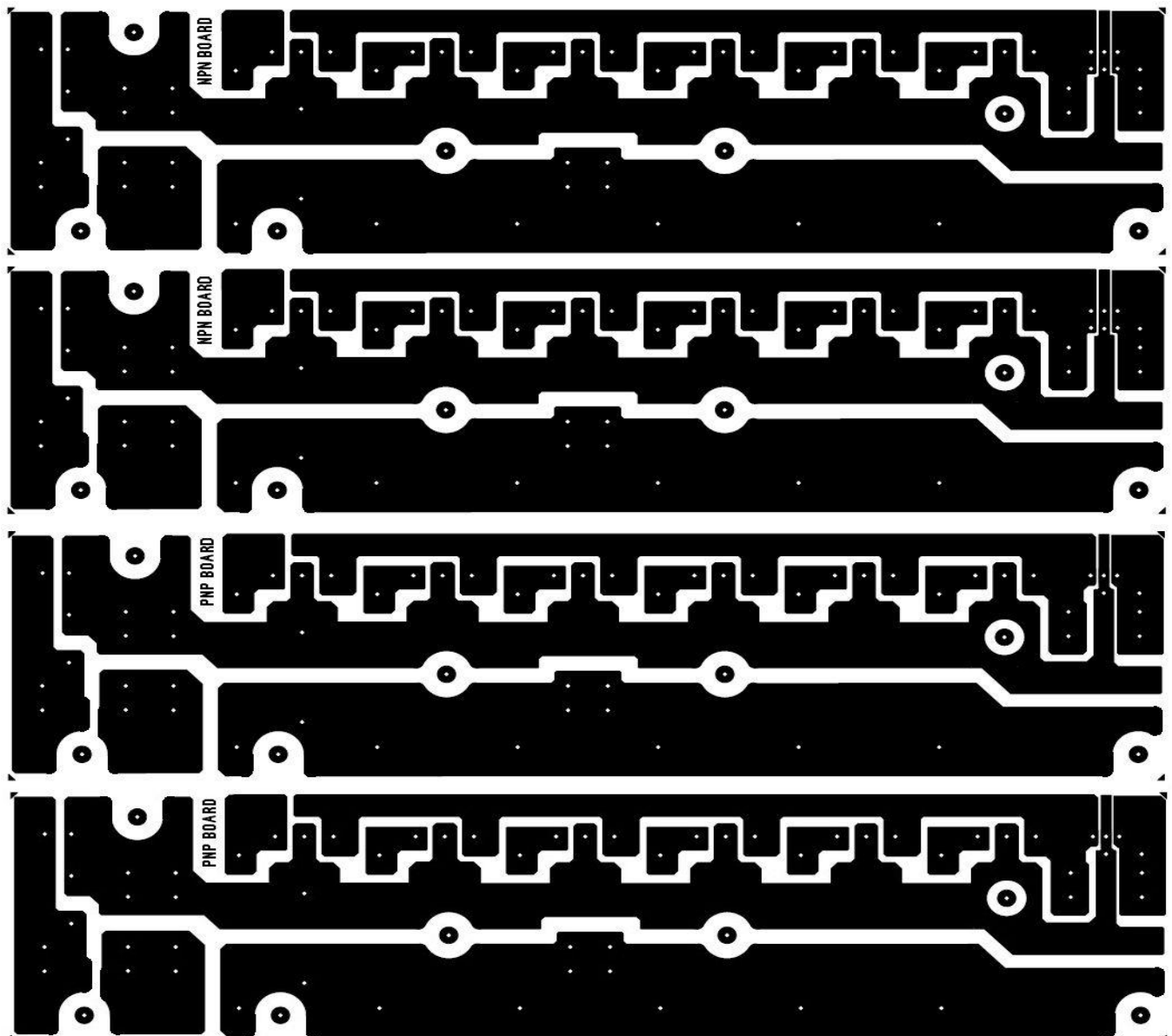
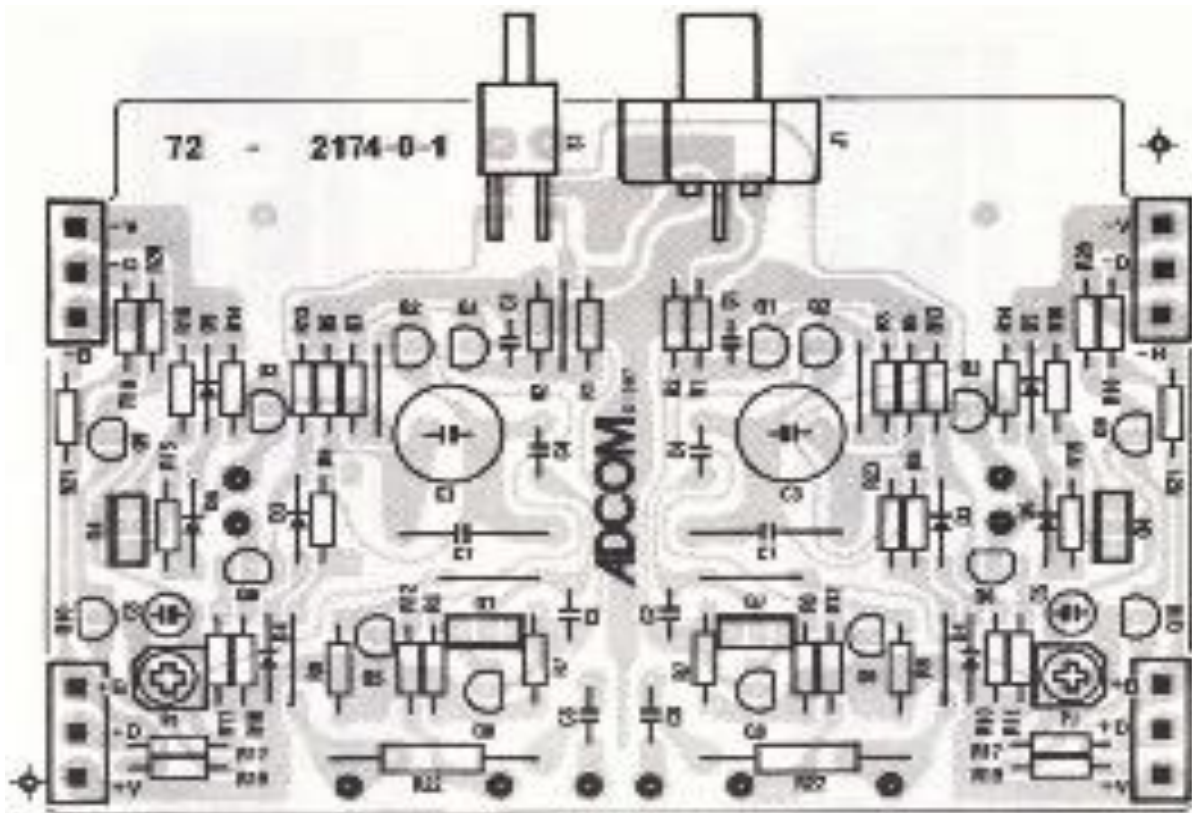


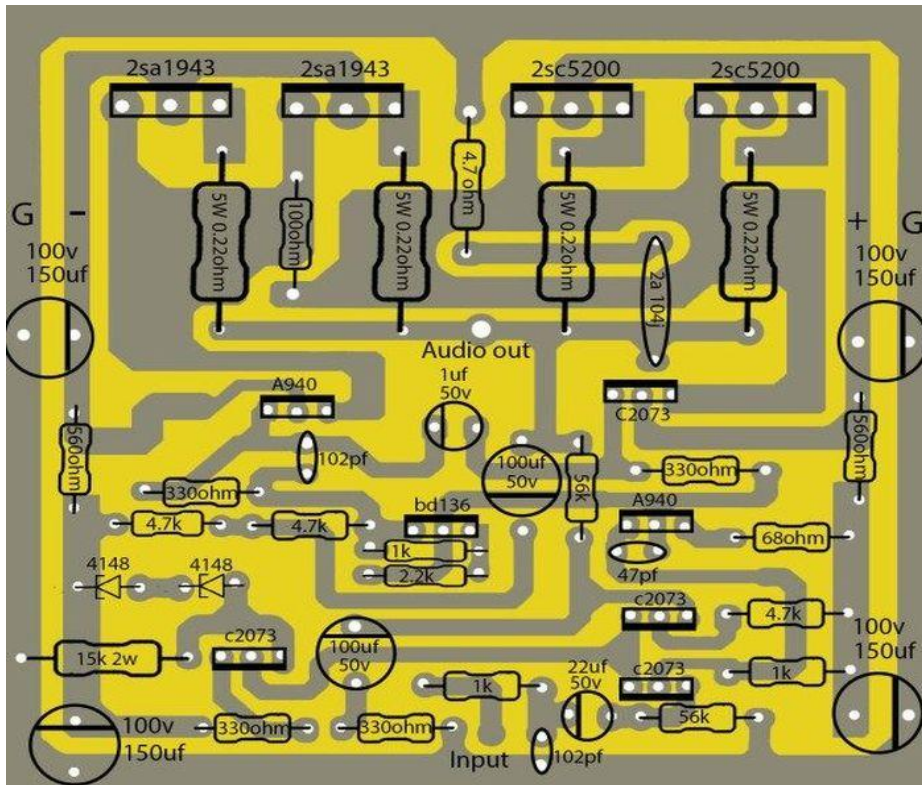
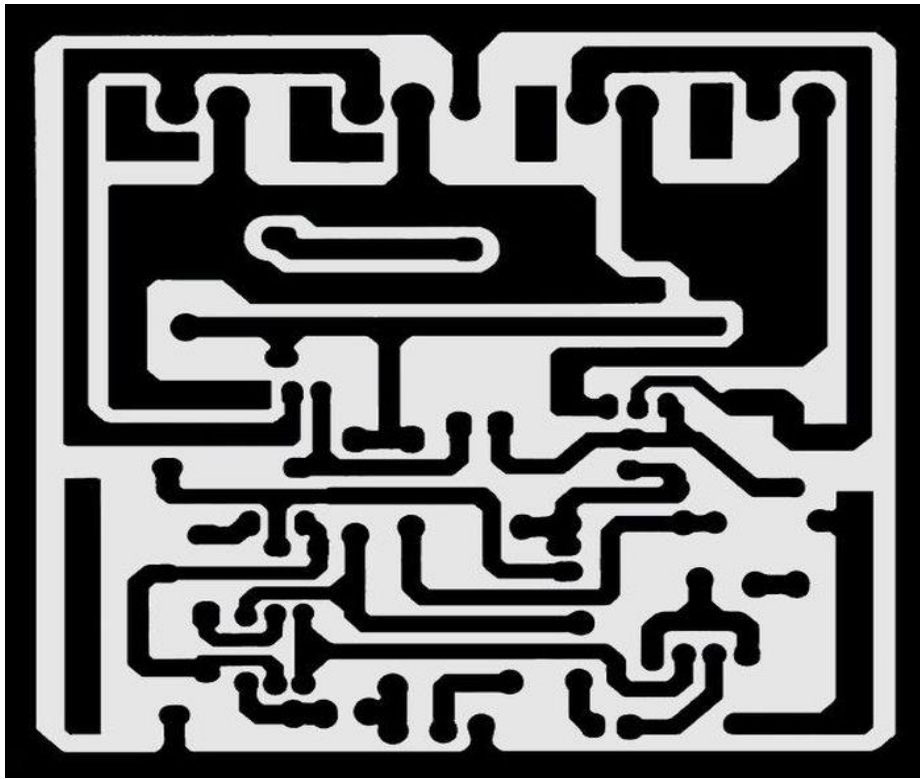




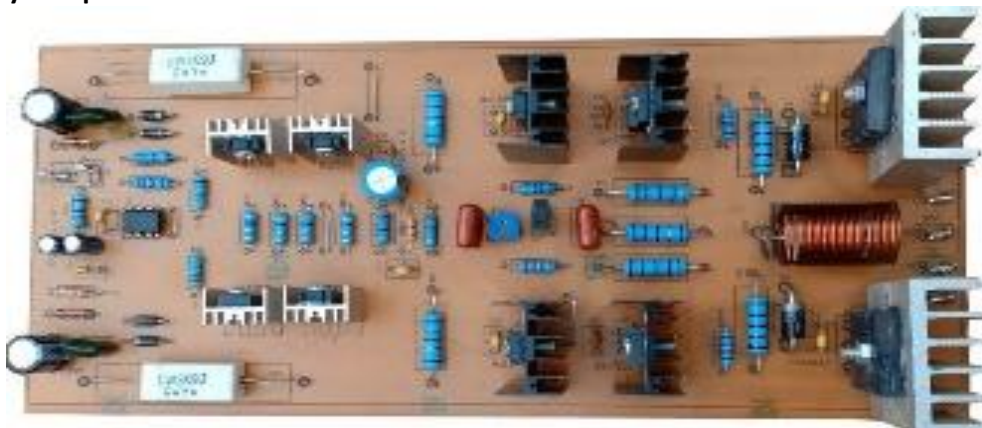
odyo ampli tr 200w 03-01 gfa 555



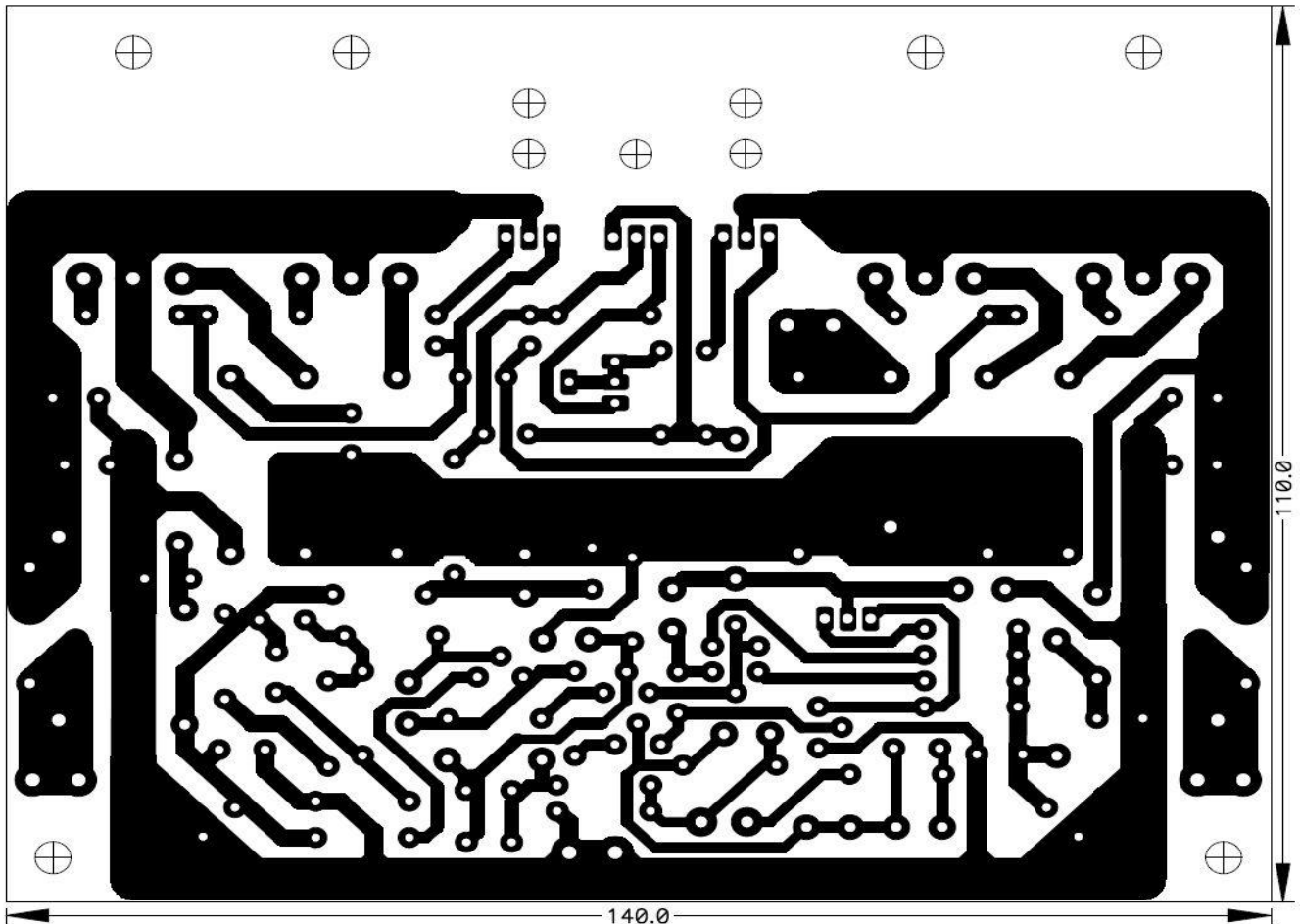
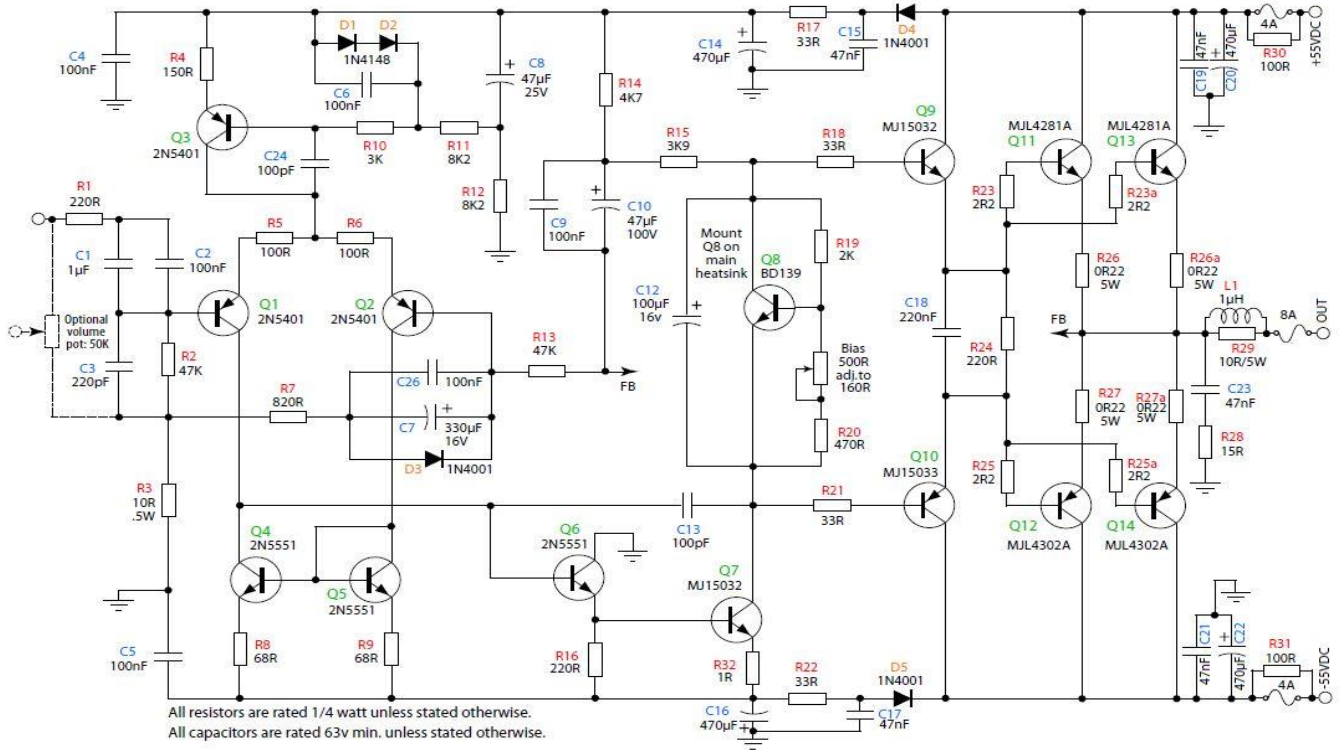
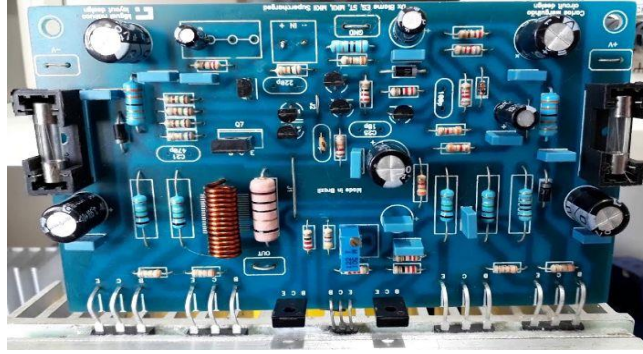


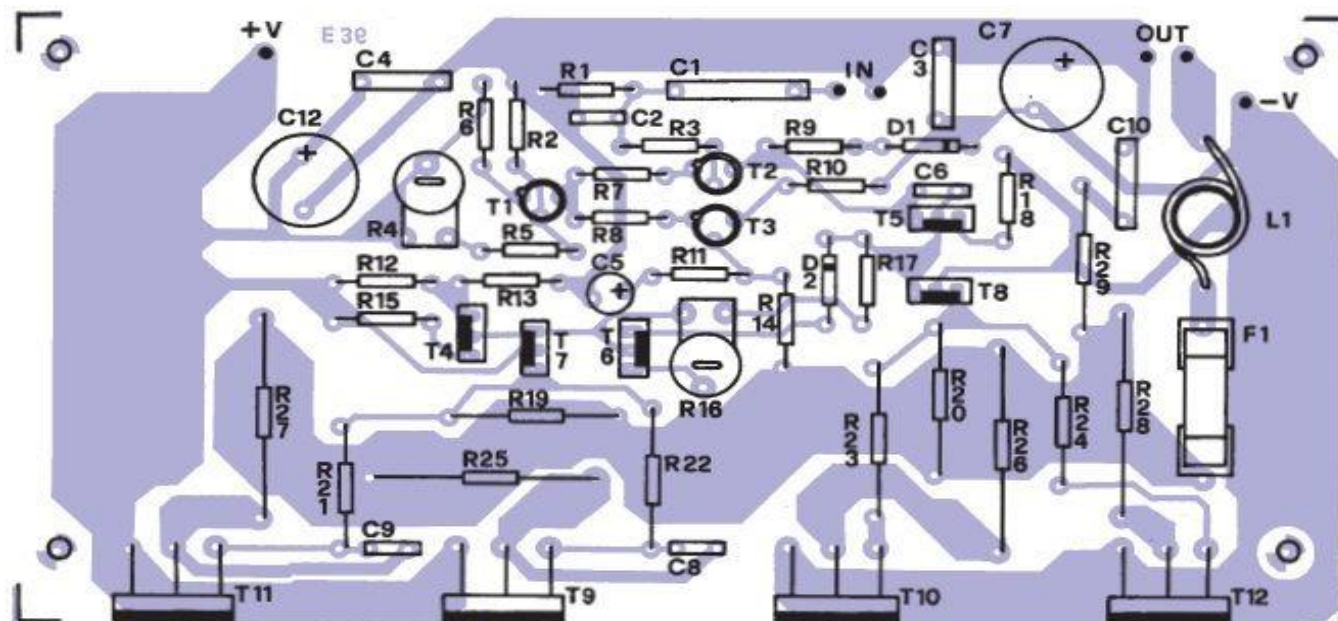
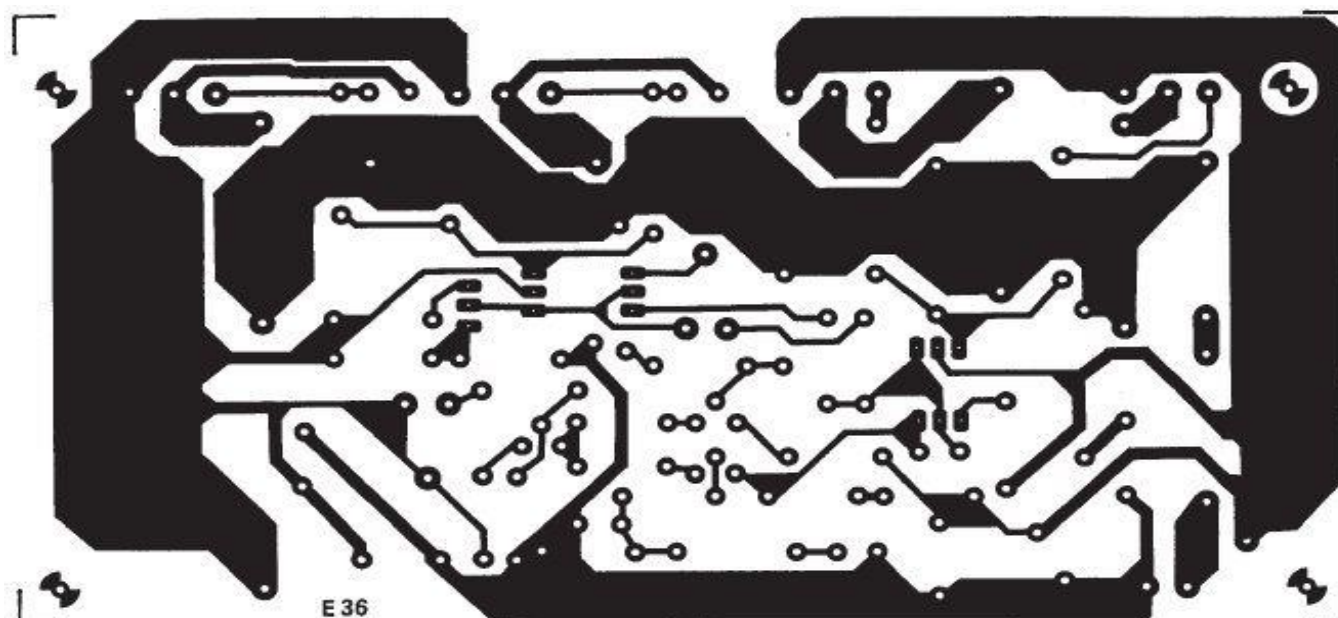


odyo ampli tr 200w 05-01

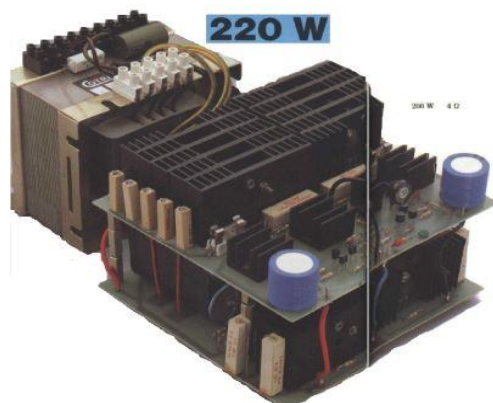


odyo ampli tr 200w 06-01 DX Blame MKII

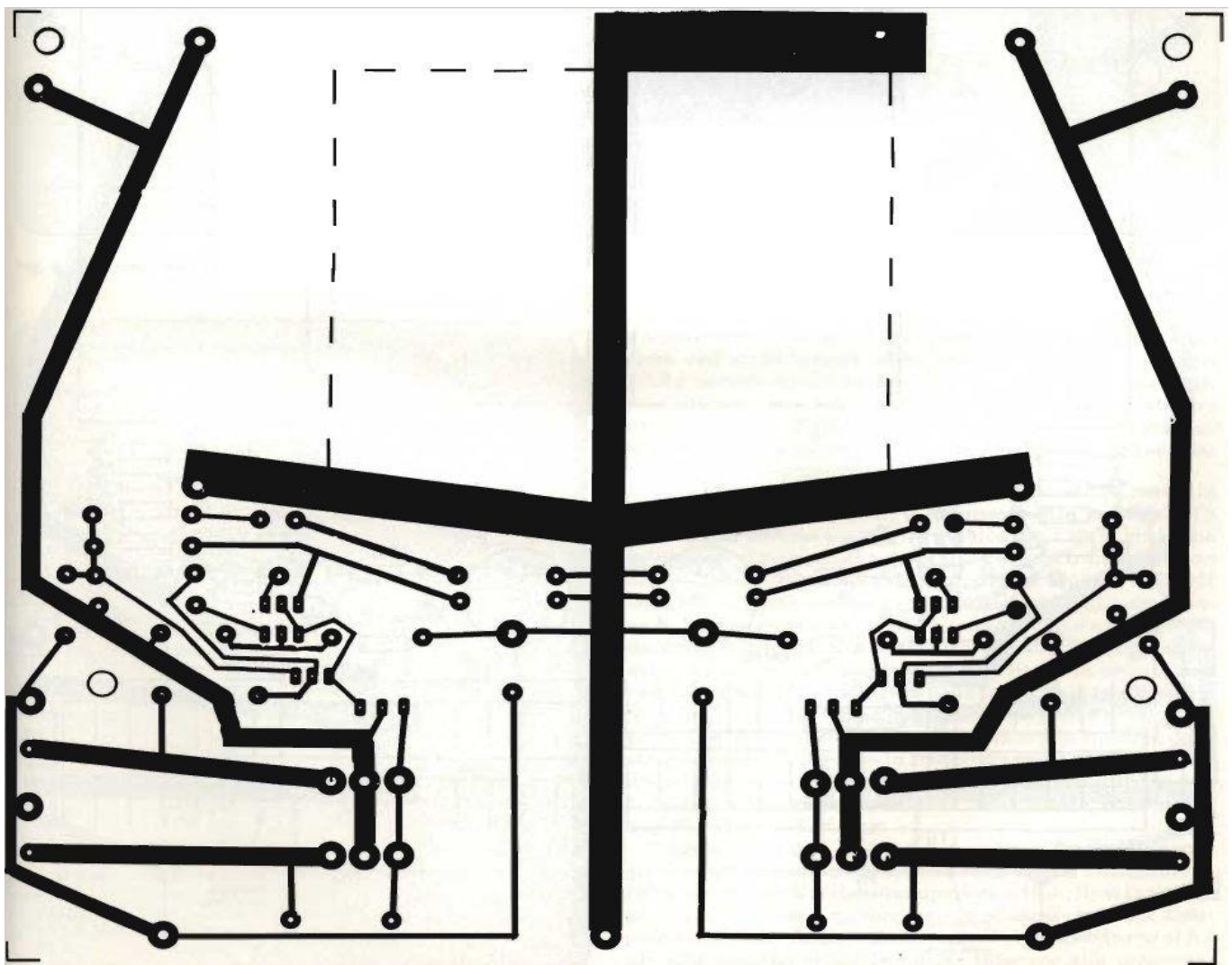
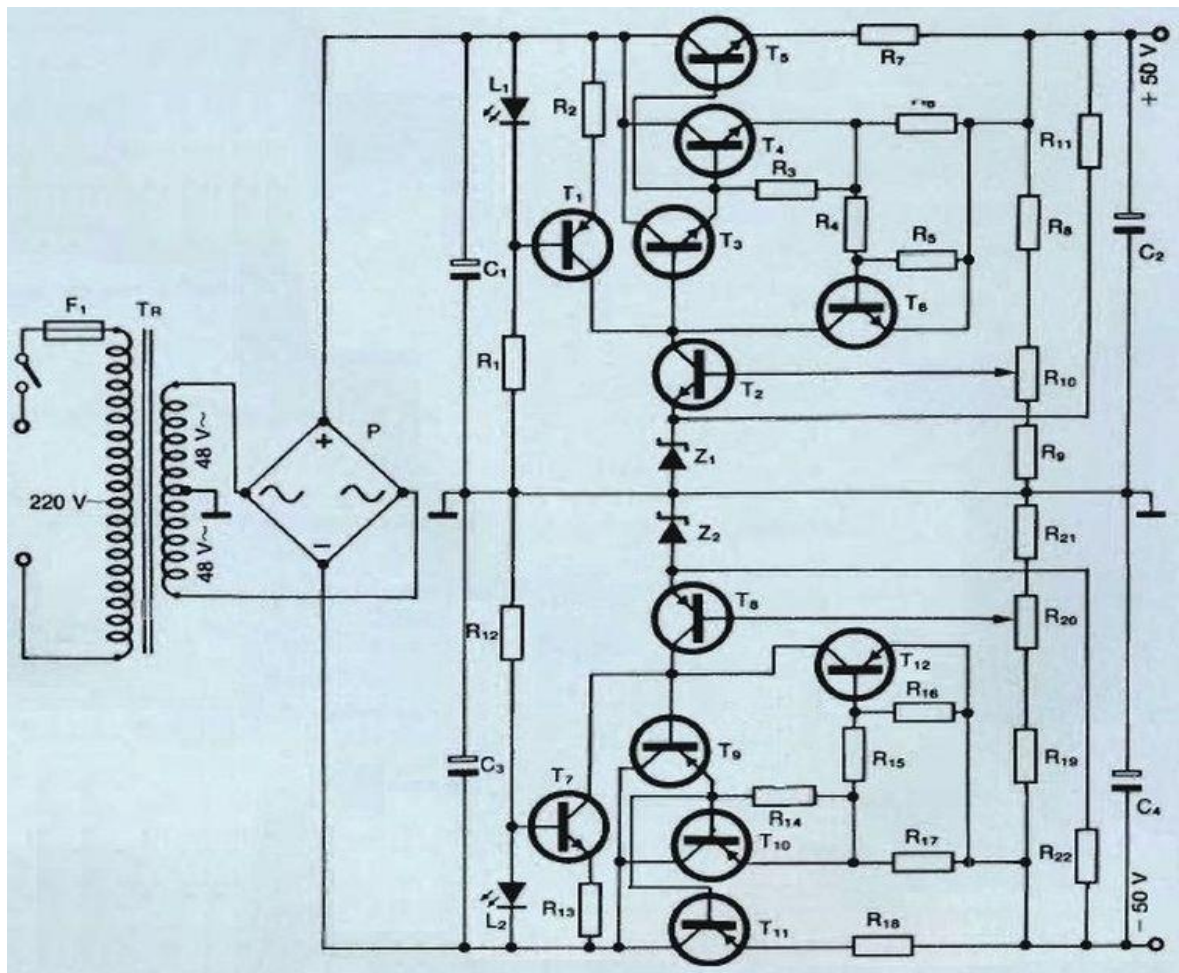


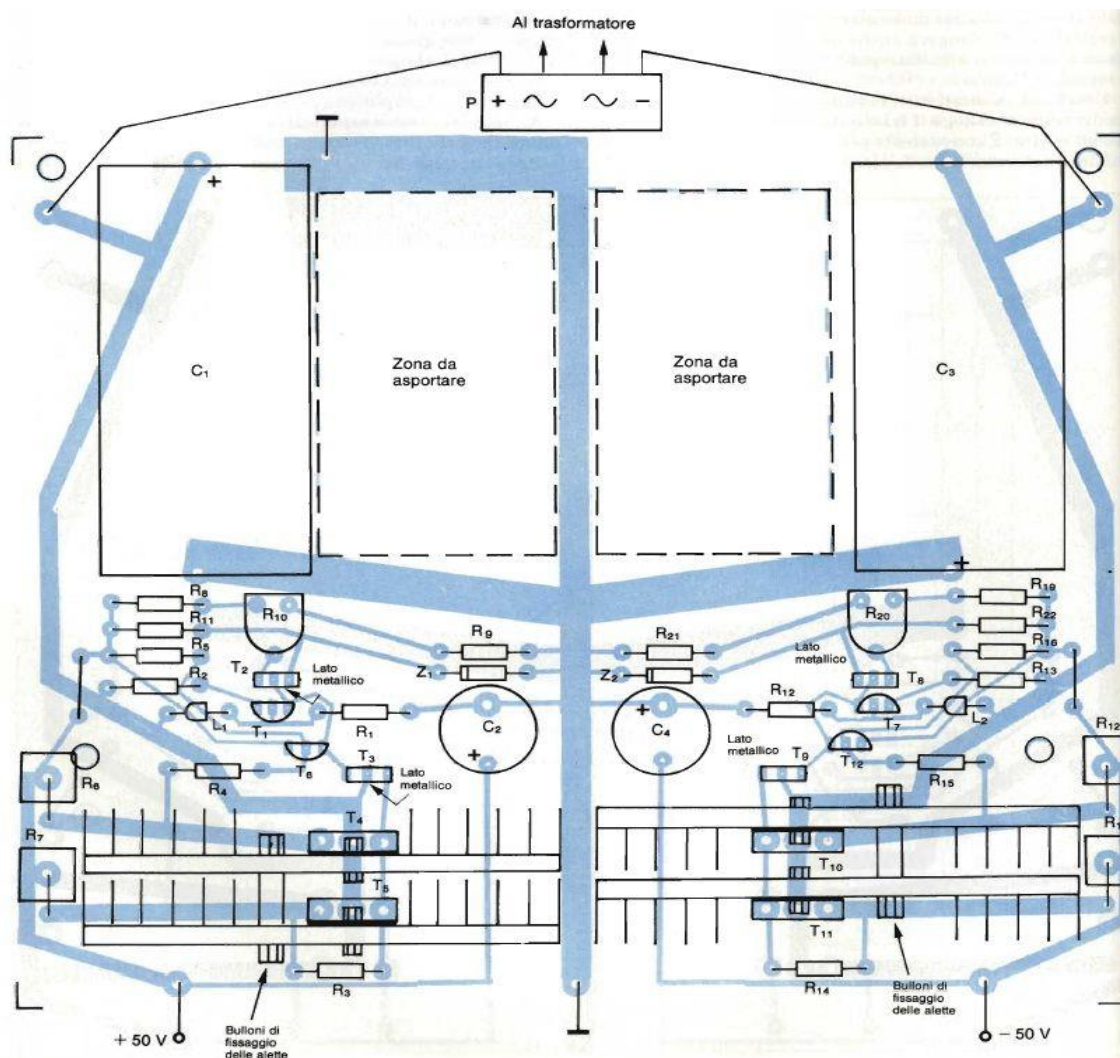


odyo ampli tr 220w 02-01 ampli

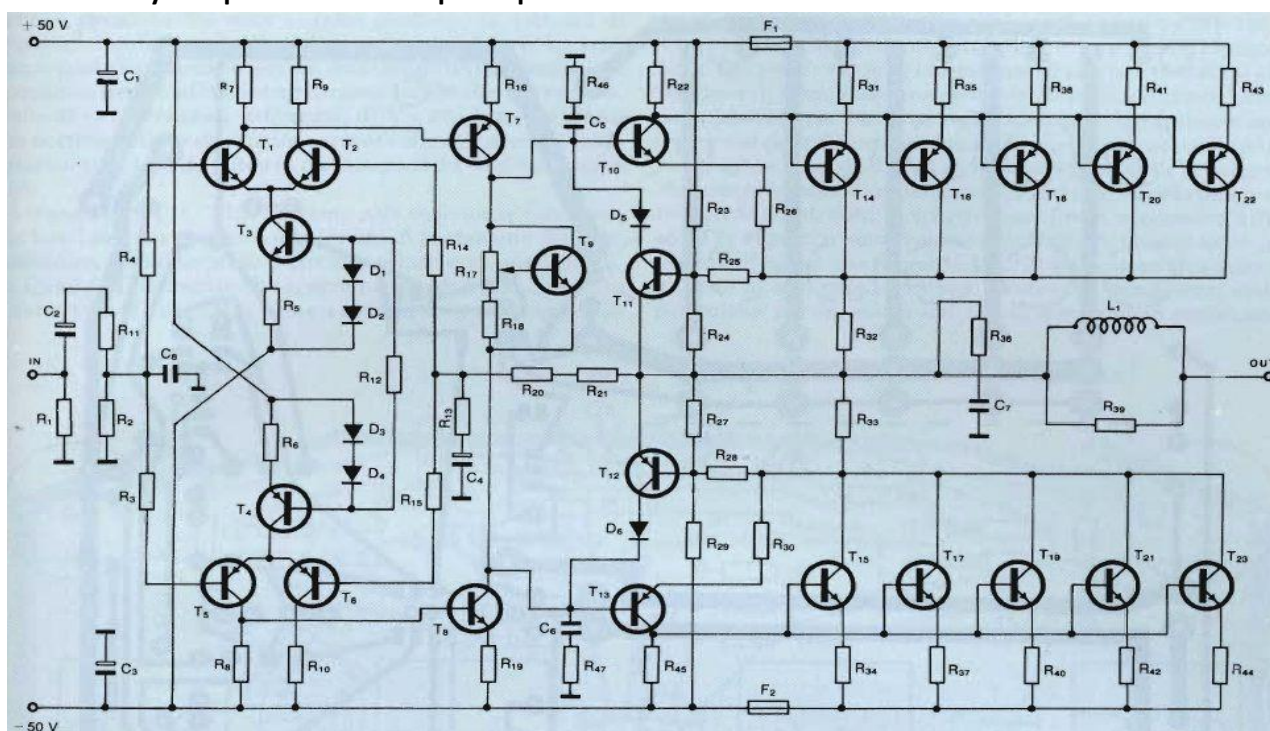


Resistenze:		Tr = trasformatore da 48 + 48 V - 200 VA.	
R1-R12	= 33 kΩ	Transistori:	
R2-R13	= 120 Ω	T1	= BC 556
R3-R14	= 1 kΩ	T2	= BD 139
R4-R15	= 100 Ω	T3	= BD 139
R5-R16	= 180 Ω	T4-T5	= TIP 33C
R6-R7-		T6	= BC 546
R17-R18	= 0,22 Ω - 7 W	T7	= BC 546
R8-R19	= 2,7 kΩ	T8	= BD 140
R9-R21	= 2,7 kΩ	T9	= BD 140
R10-R20	= 1 kΩ - trimmer	T10-T11	= TIP 34 C
R11-R22	= 12 kΩ	T12	= BC 556
Condensatori:		Z1-Z2	= zener 24 V - 1 W
C1-C3	= 4.700 μF 80V	L1-L2	= LED rossi
C2-C4	= 220 μF 63V	F1	= fusibile 1,6 A
P	= ponte da 200 V - 25 A		



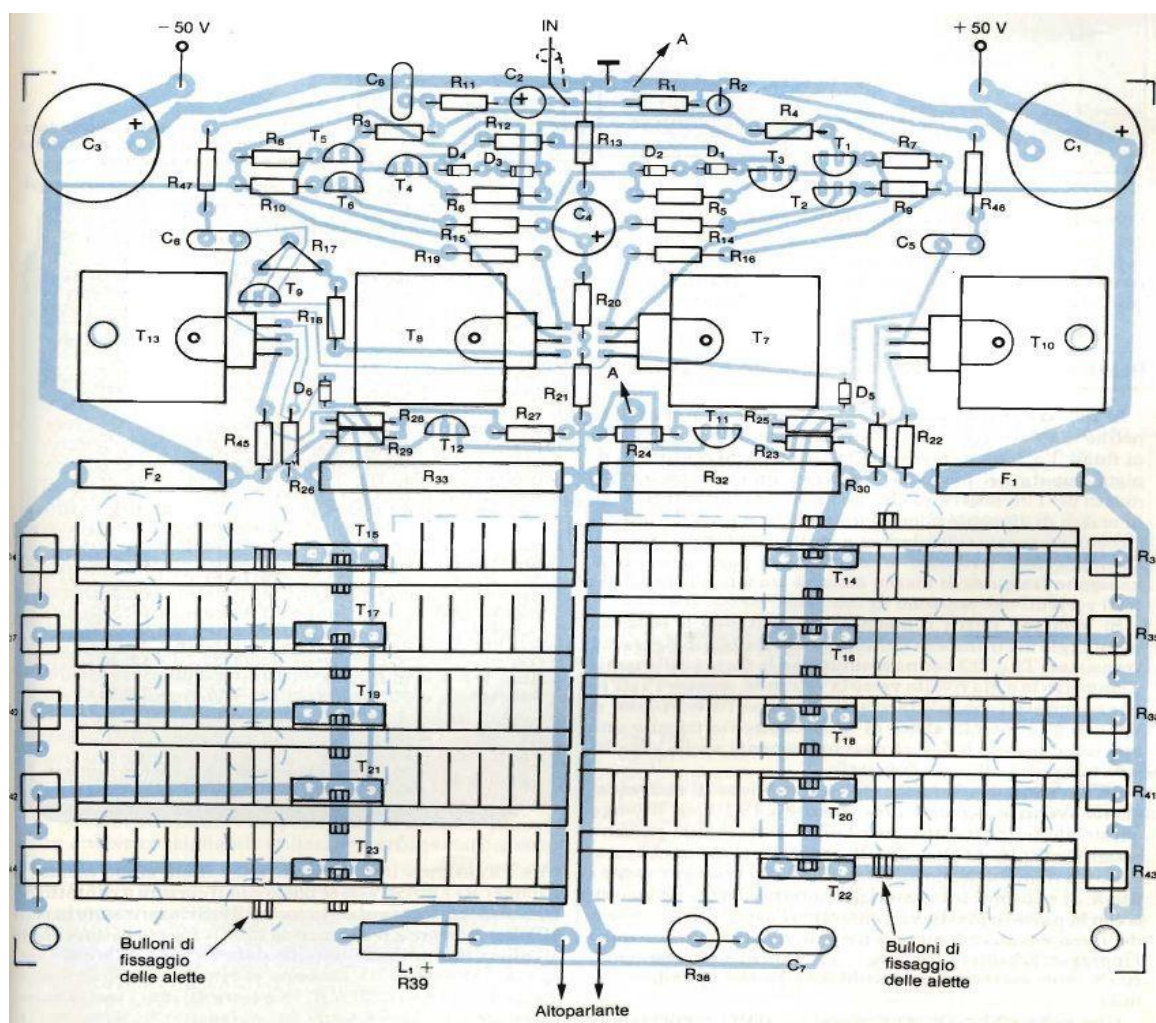
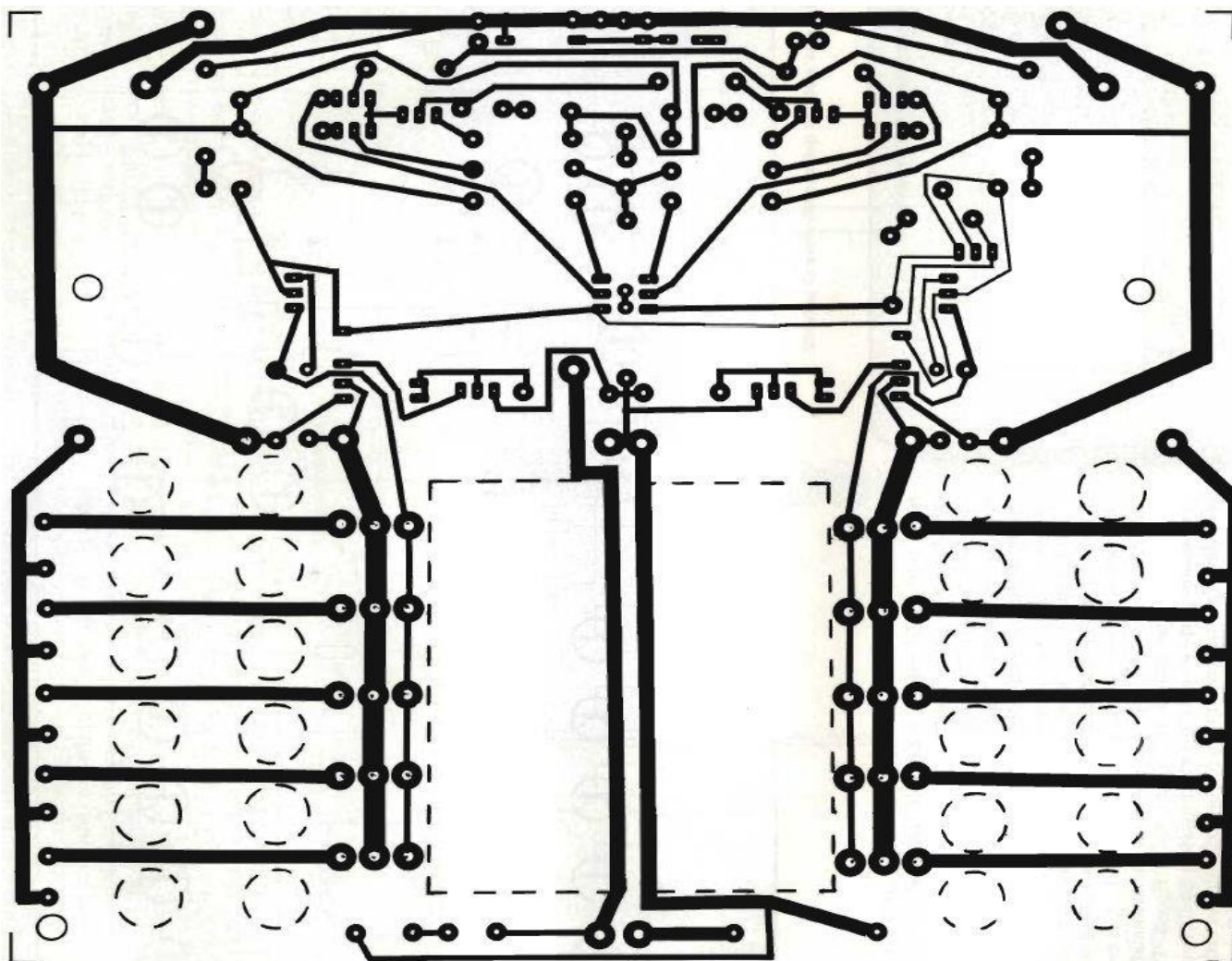


odyo ampli tr 220w 02-06 preampli

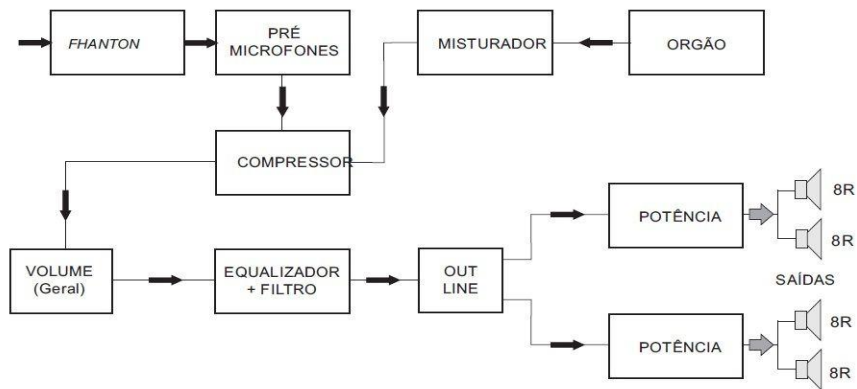


Resistenze:	Condensatori:	R24-R27	Transistori:
R1 = 100 kΩ	C1-C3 = 1000 μF 63 V	R25-R28 = 100 Ω	T1-T2-T3 = BC 546
R2 = 12 kΩ	C2 = 3,3 μF 25 V	R26-R30 = 2,2 Ω	T9-T11 = BC 546
R3-R4 = 100 Ω	C4 = 220 μF 25 V	R31-R35-R38 = 0,33 Ω 5 W	T4-T5-T6 = BC 556
R14-R15 = 100 Ω	C5-C6 = 220 pF	R41-R43 = 0,33 Ω 5 W	T12 = BD 530
R5-R6 = 120 Ω	C7 = 100 kpF	R34-R37-R40 = 0,1 Ω 7 W	T7-T13 = BD 529
R7-R10 = 2,7 kΩ	C8 = 1 kpF	R42-R44 = 0,1 Ω 7 W	T8-T10 = TIP 34 C
R11 = 1 kΩ		R32-R33 = 10 Ω - 2 W	T14-T16-T18 = TIP 34 C
R12 = 68 kΩ		R36 = 10 Ω - 2 W	T20-T22 = TIP 33 C
R13 = 270 Ω		R39 = 10 Ω - 2 W	
R16-R19 = 47 Ω		R46-R47 = 680 Ω	
R18 = 220 Ω			
R17 = 470 Ω - trimmer			
R20-R21 = 4,7 kΩ			
R22-R45 = 100 Ω			
R23-R29 = 6,8 kΩ			

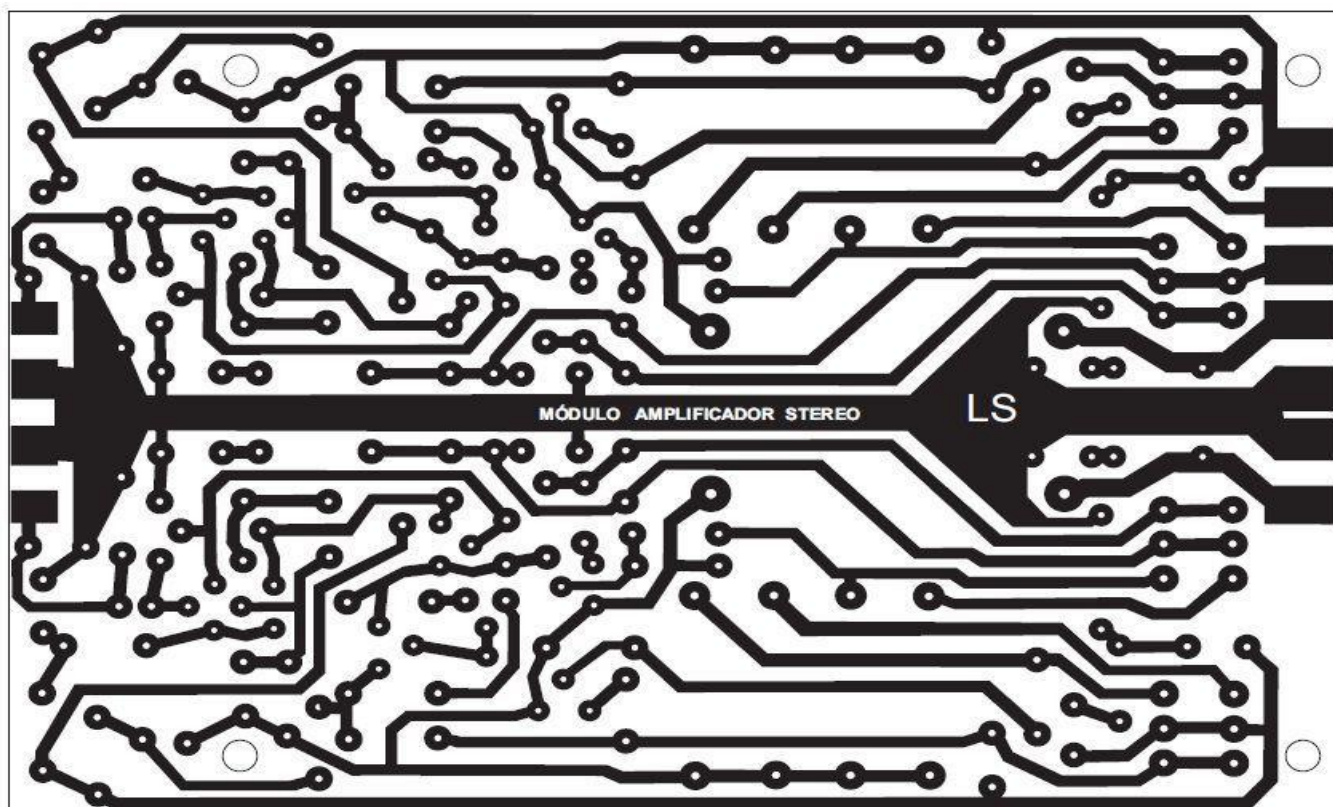
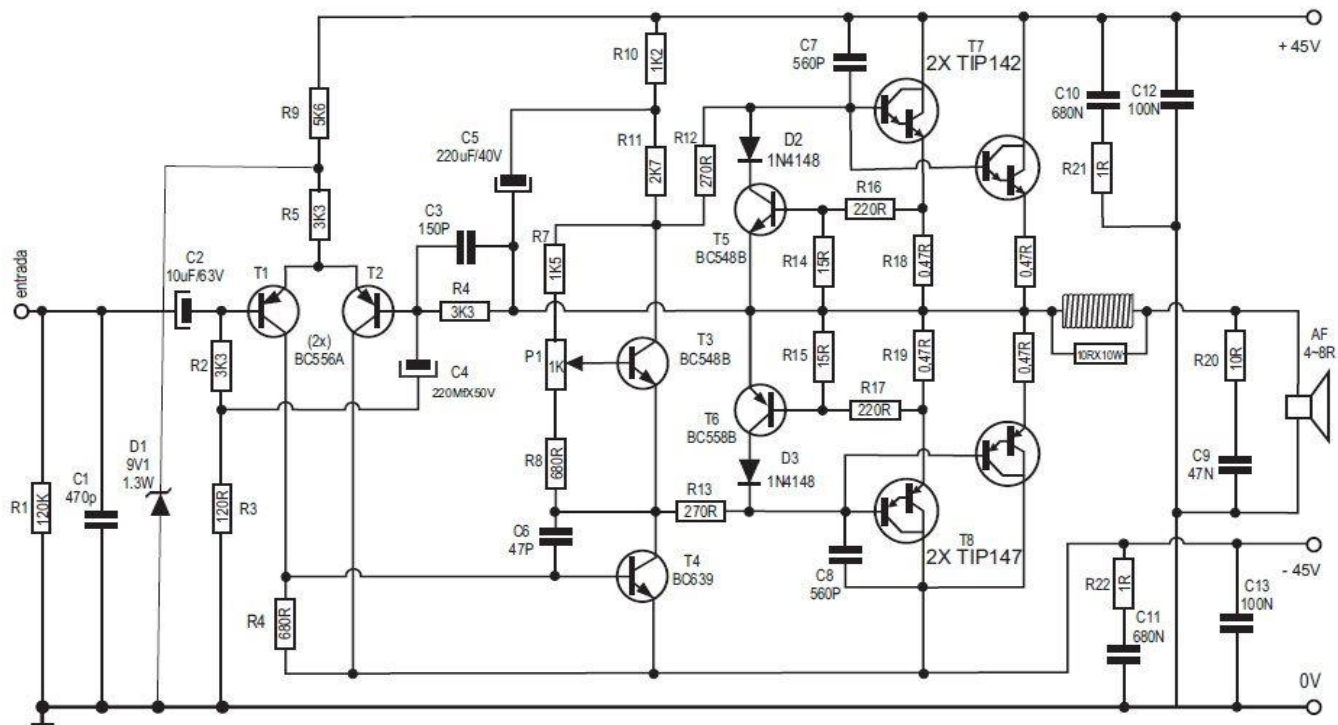
Diodi:
D1 ÷ D6 = 1N 4148
F1-F2 = fusibile 5 A
L1 = 15 spire di filo smaltato da 0,8 mm di diametro avvolti su R39



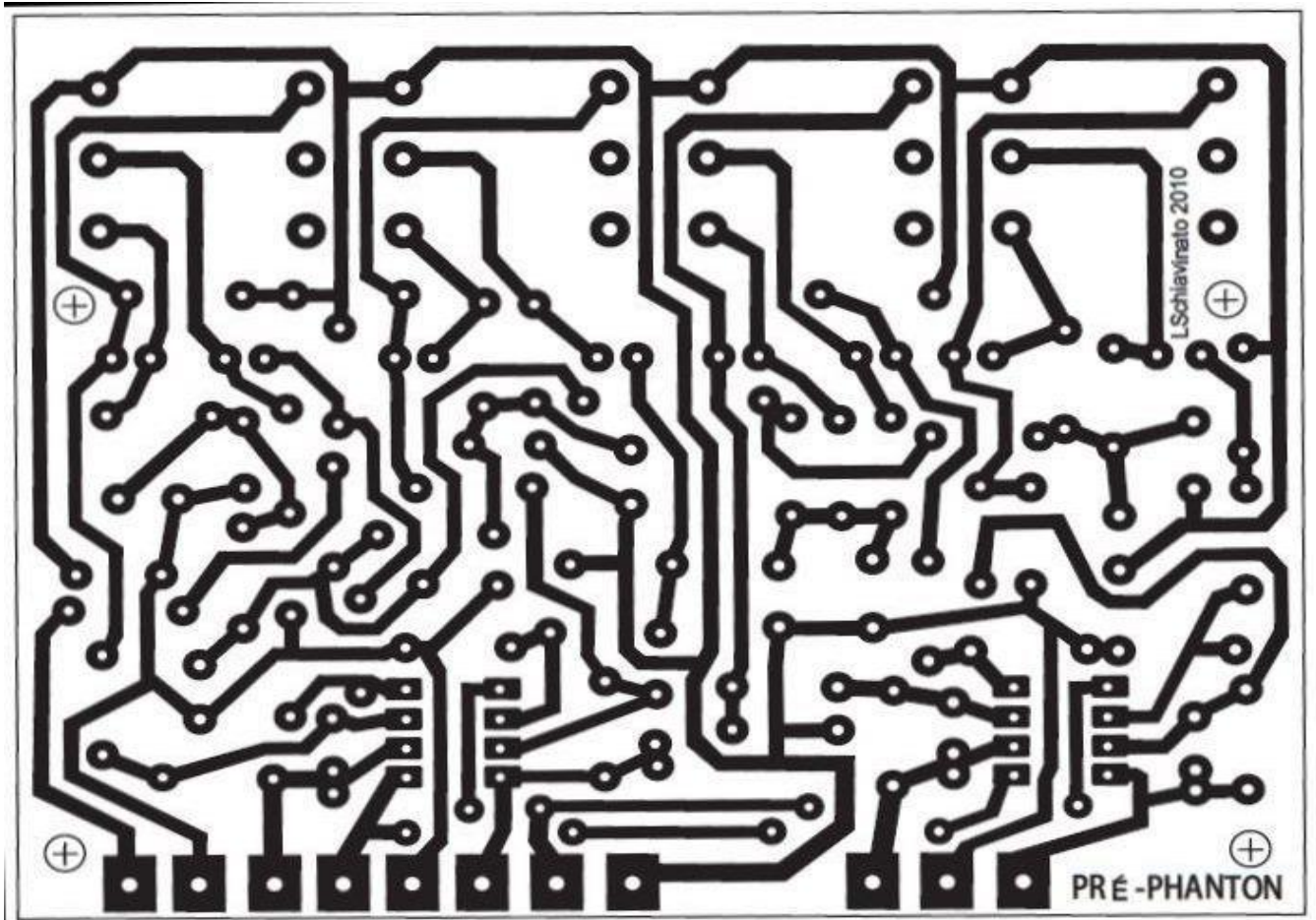
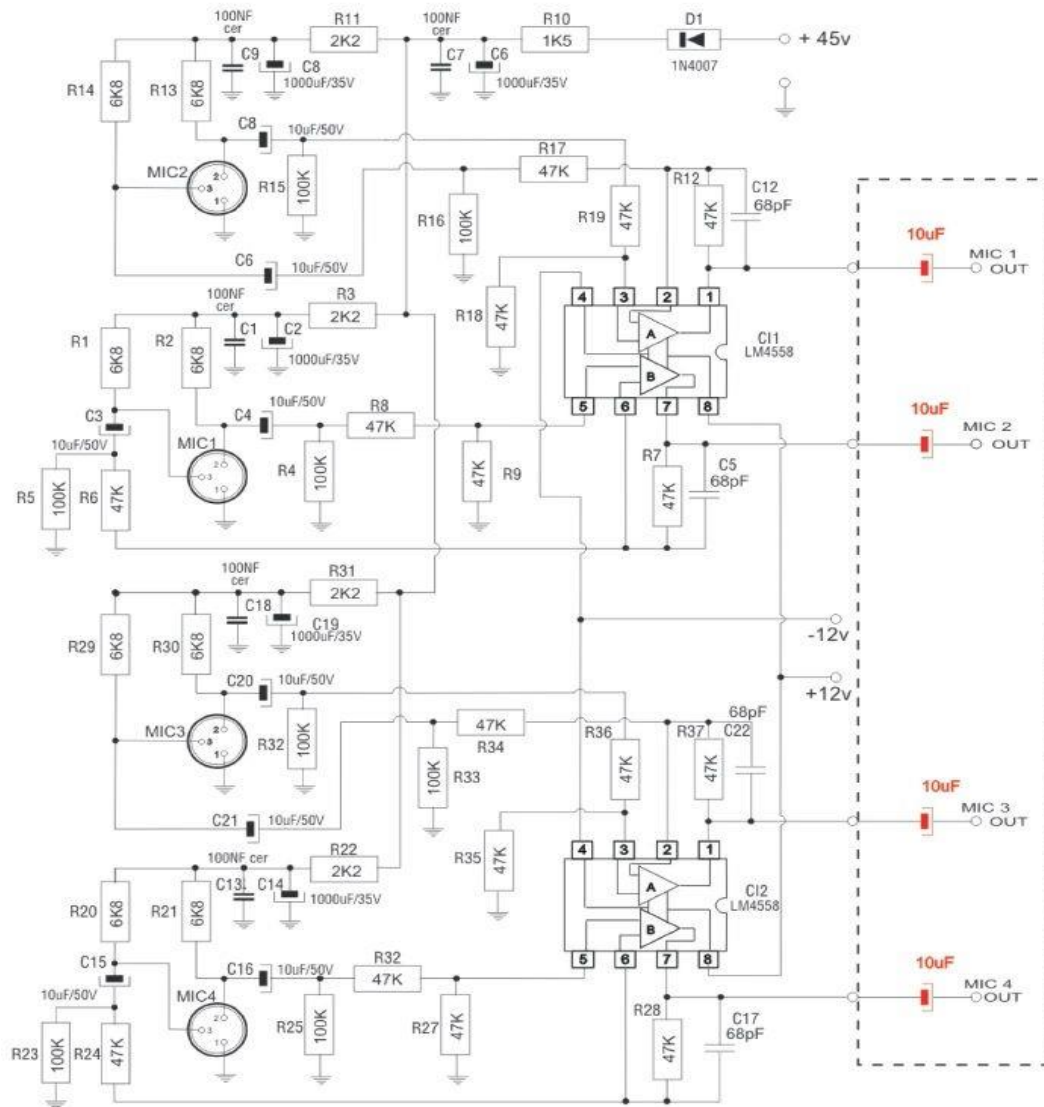
odyo ampli tr 240w 02-01 diyagram

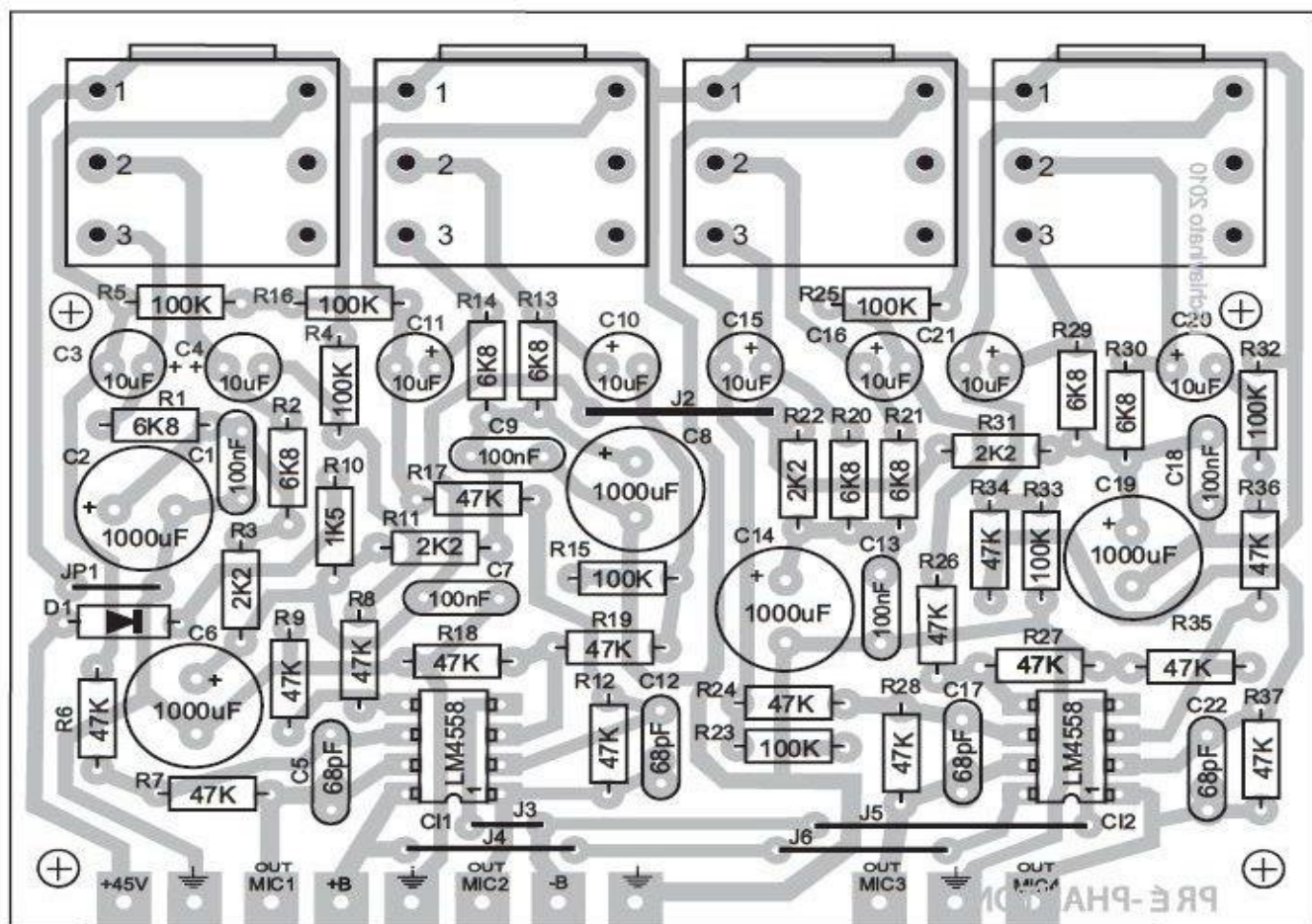


odyo ampli tr 240w 02-02 ampli

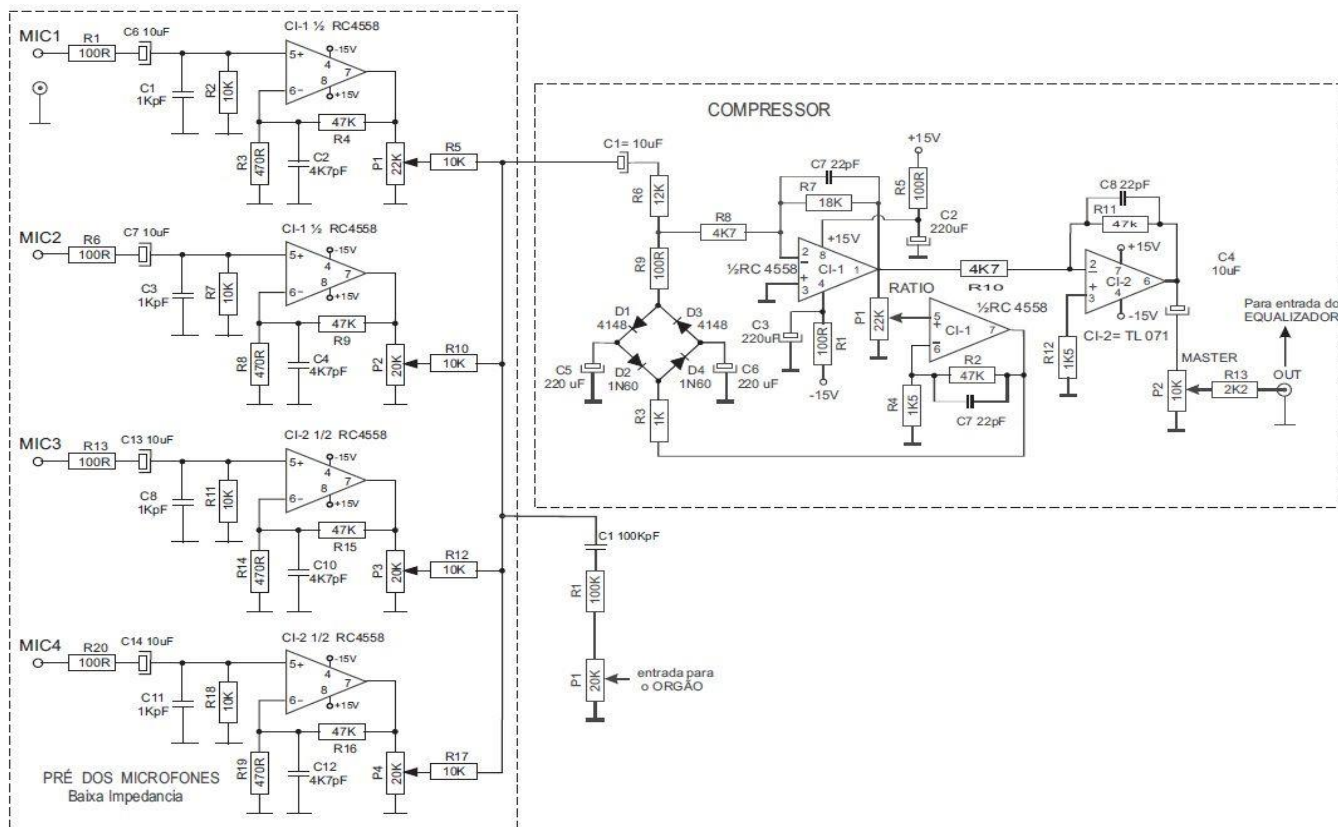


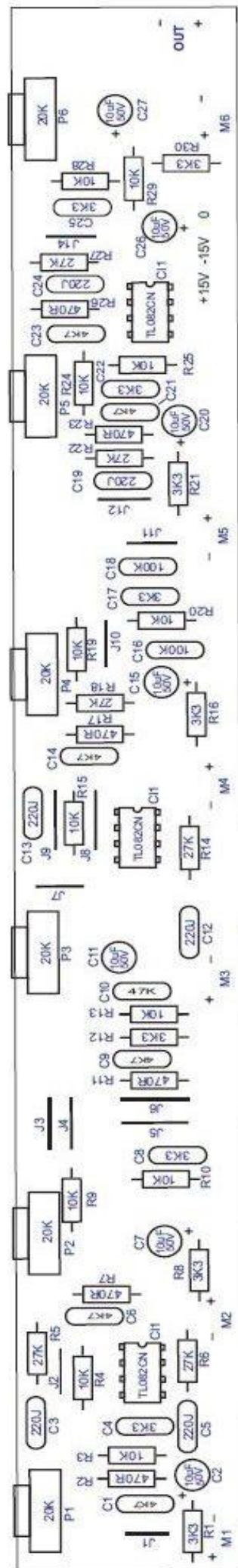
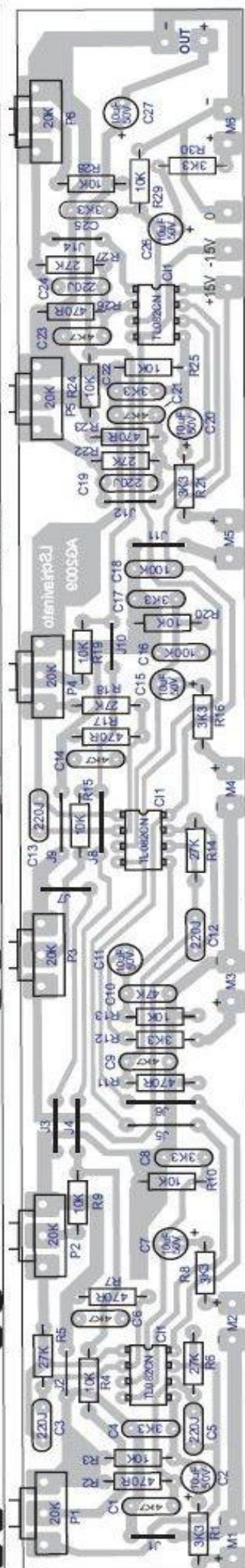
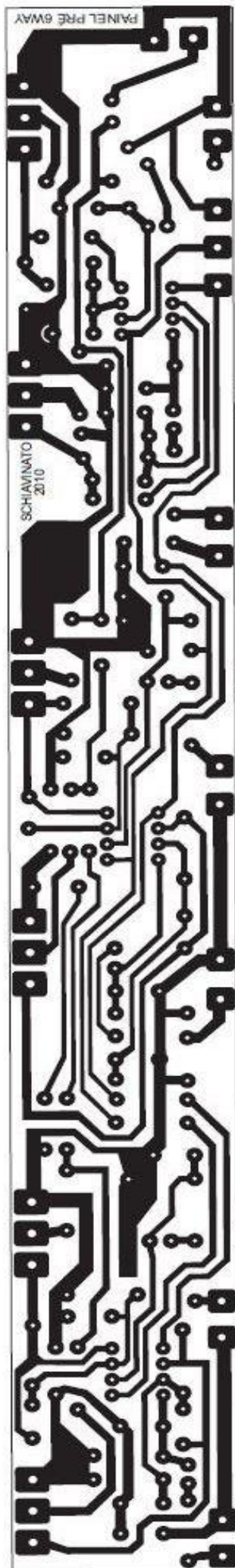
odyo ampli tr 240w 02-10 preampli



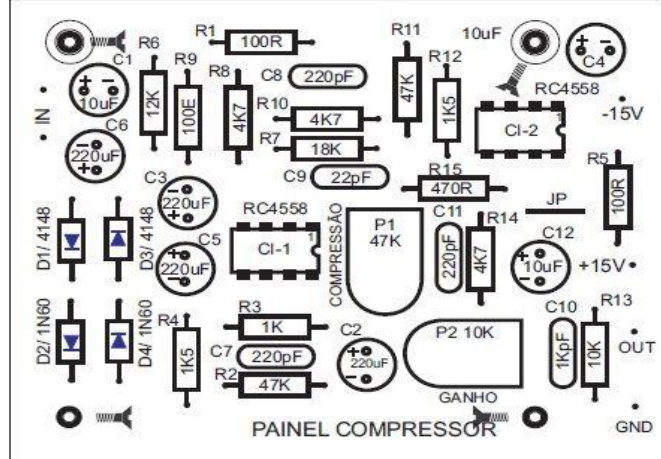
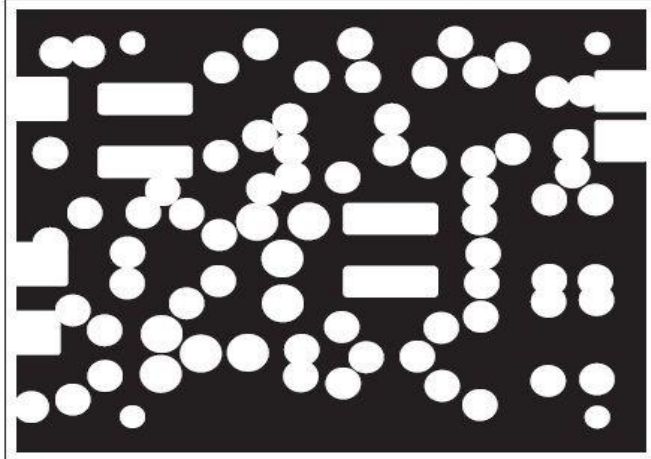
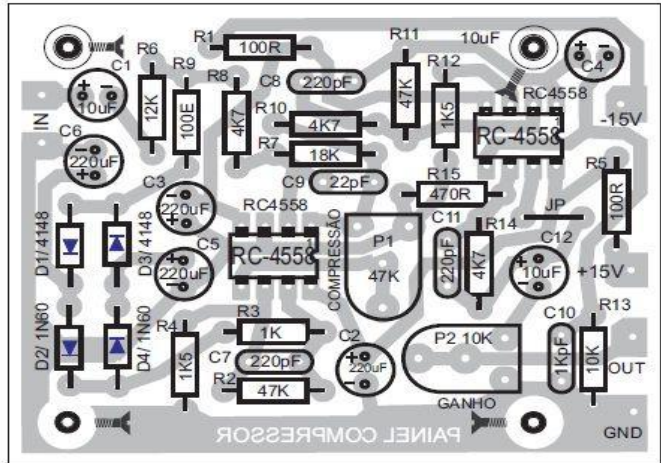
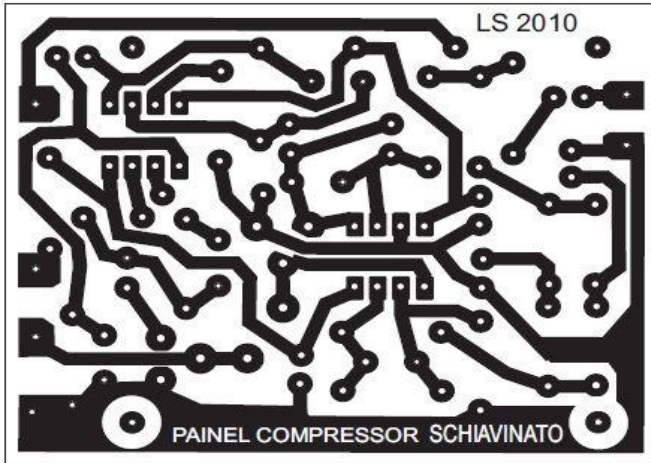


odyo ampli tr 240w 02-14 mikser + kompresör

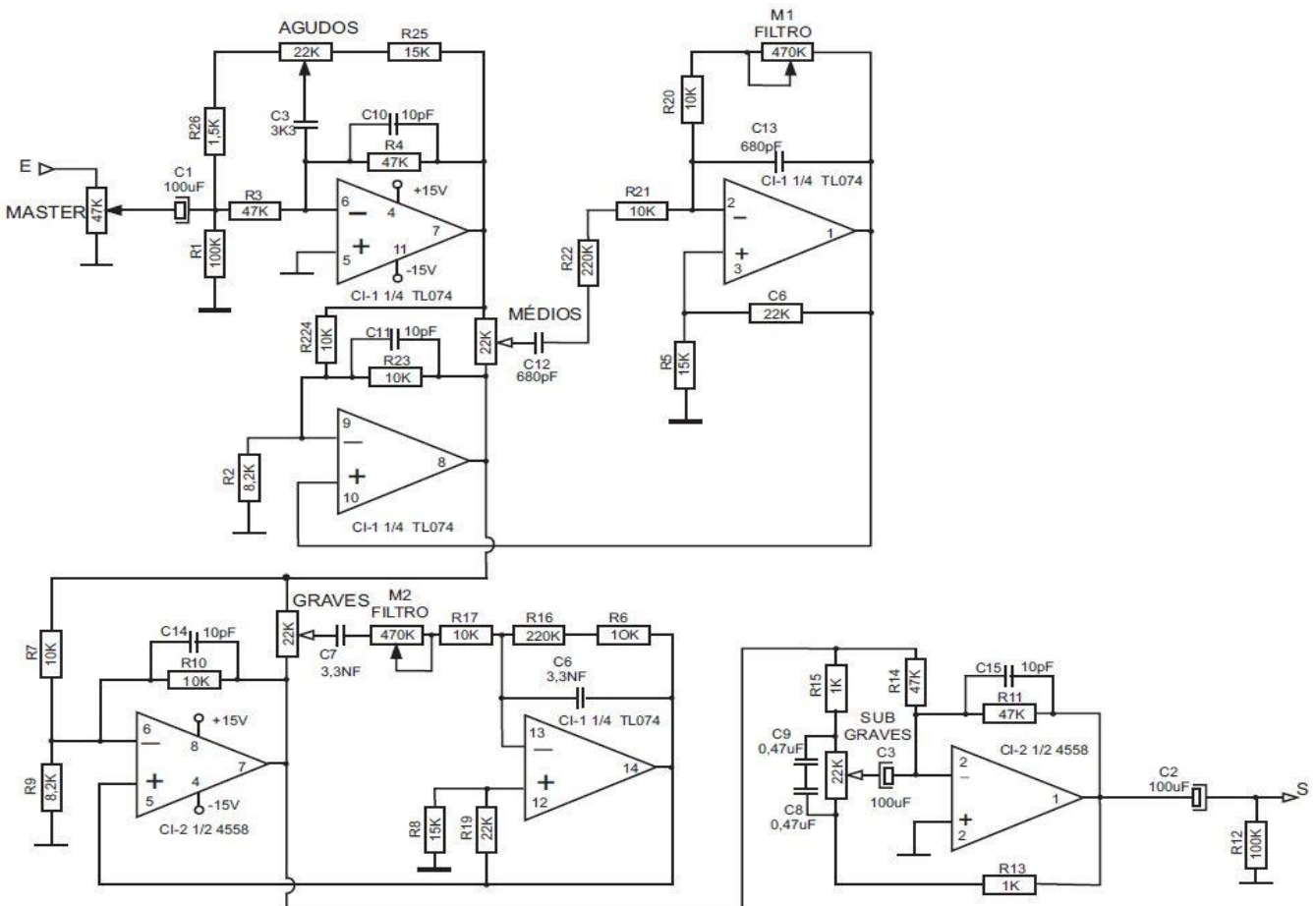


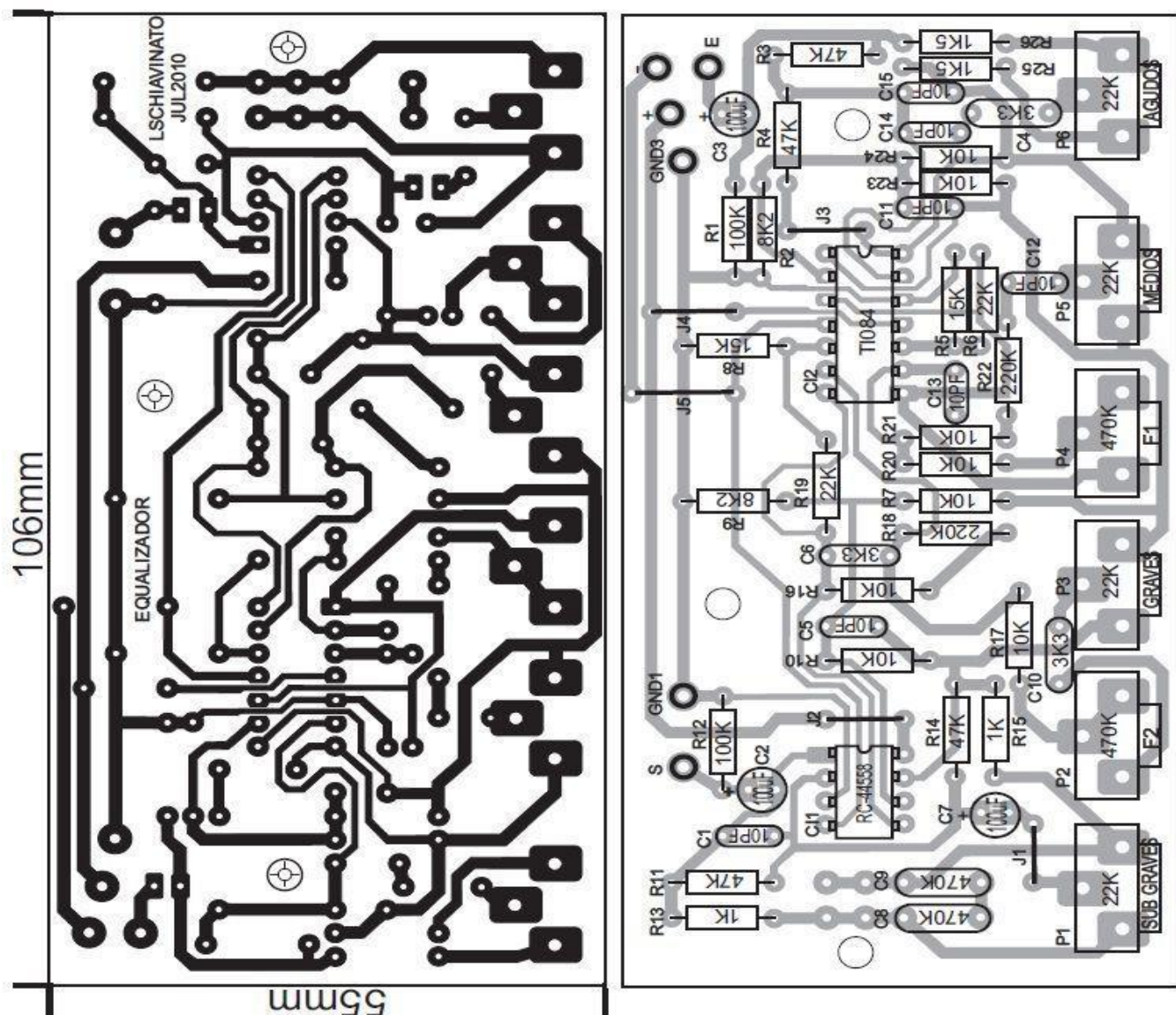


odyo ampli tr 240w 02-16 kompresör b. devre

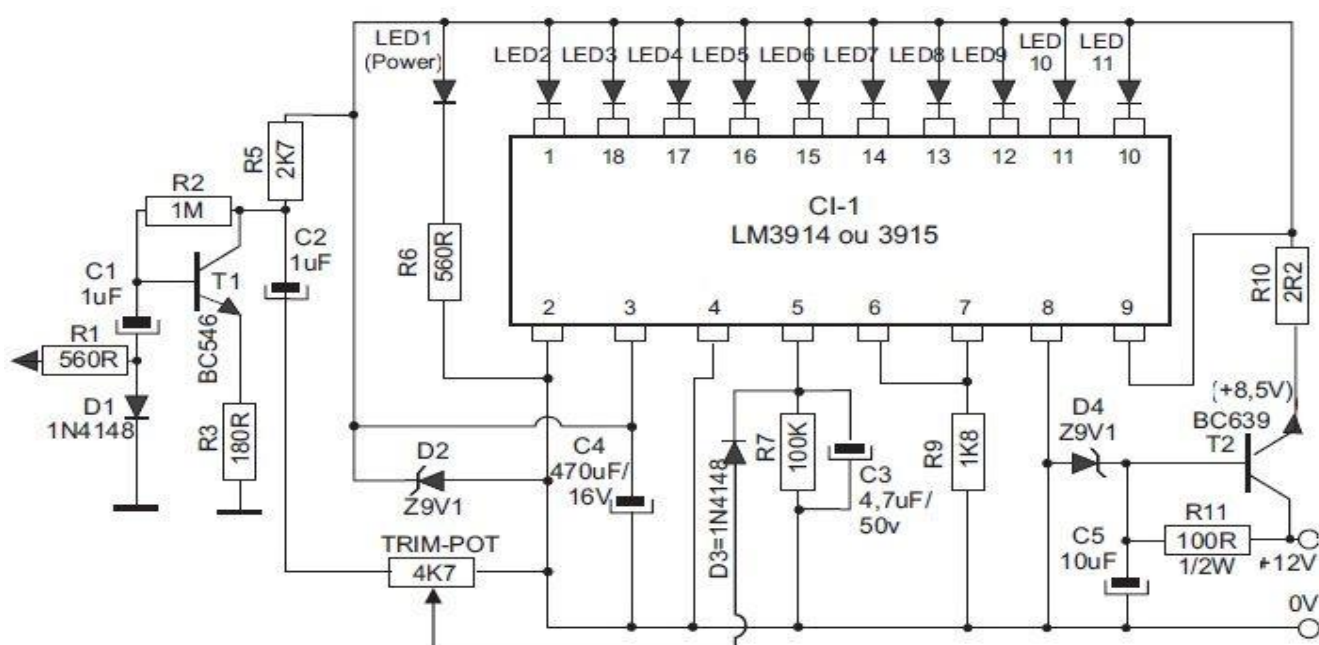


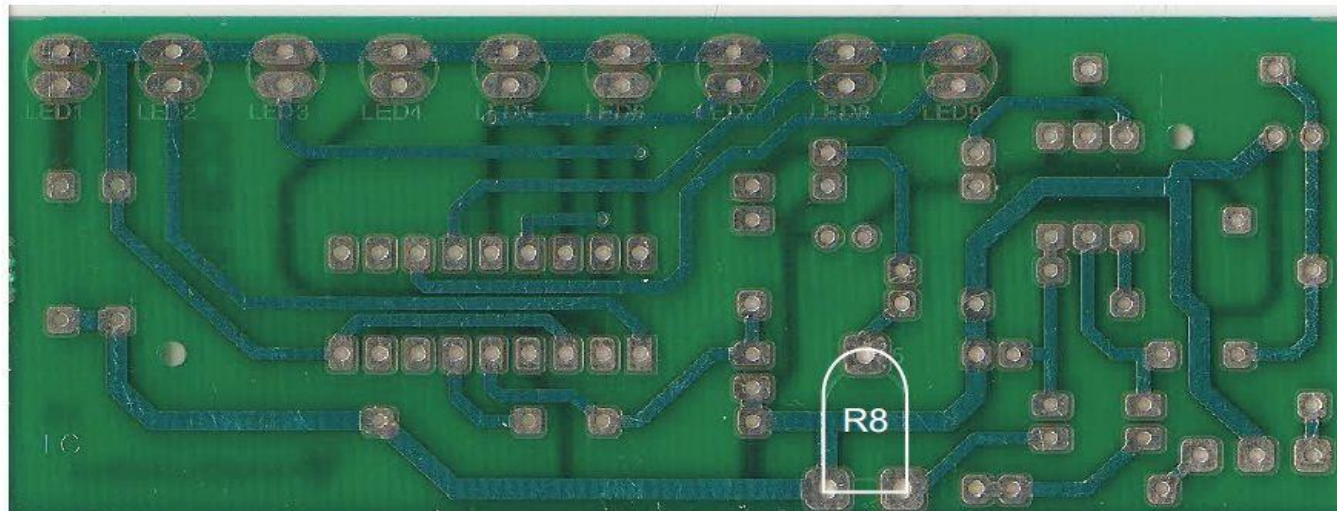
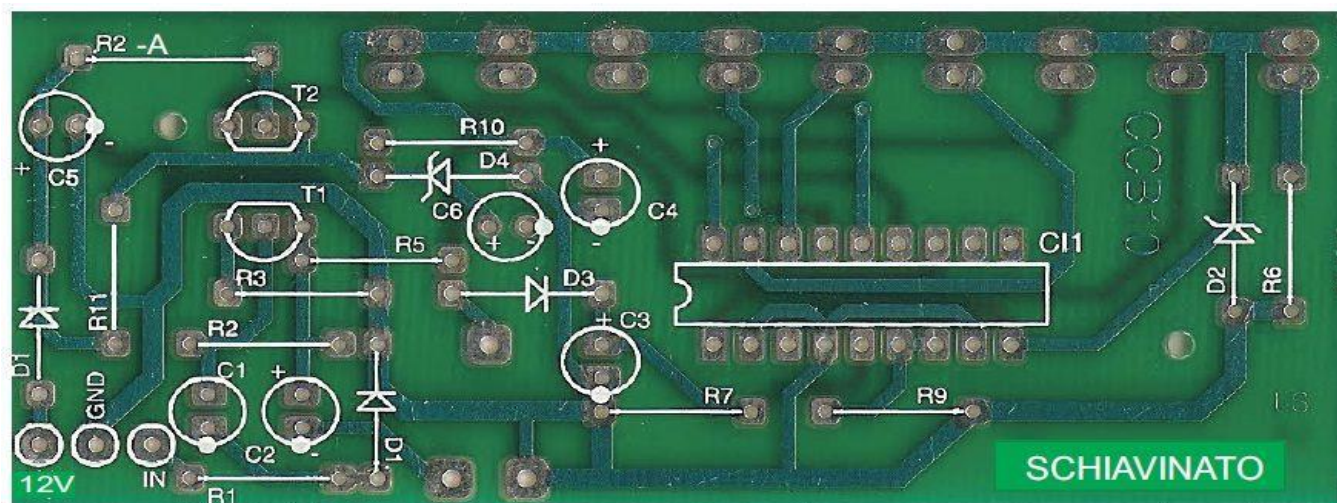
odyo ampli tr 240w 02-17 egalizör



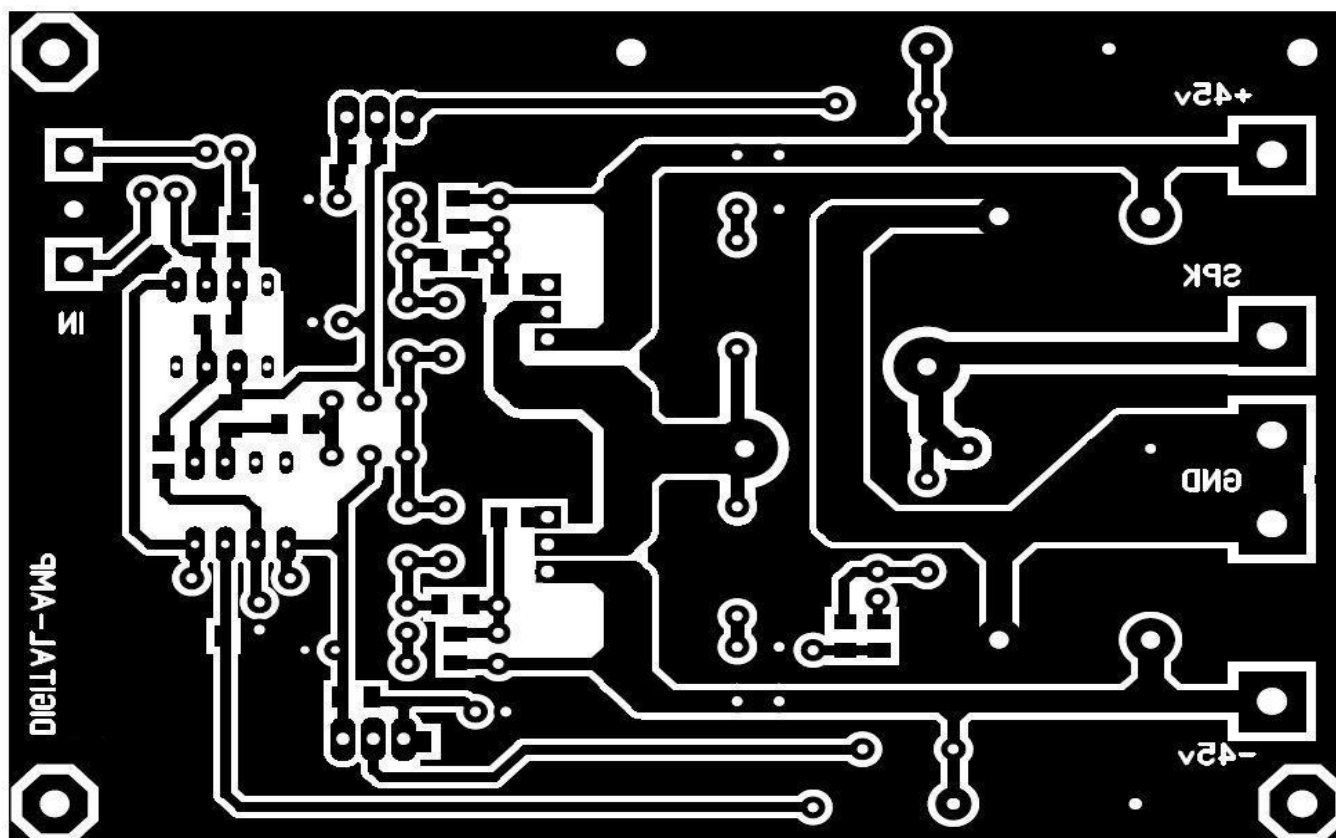


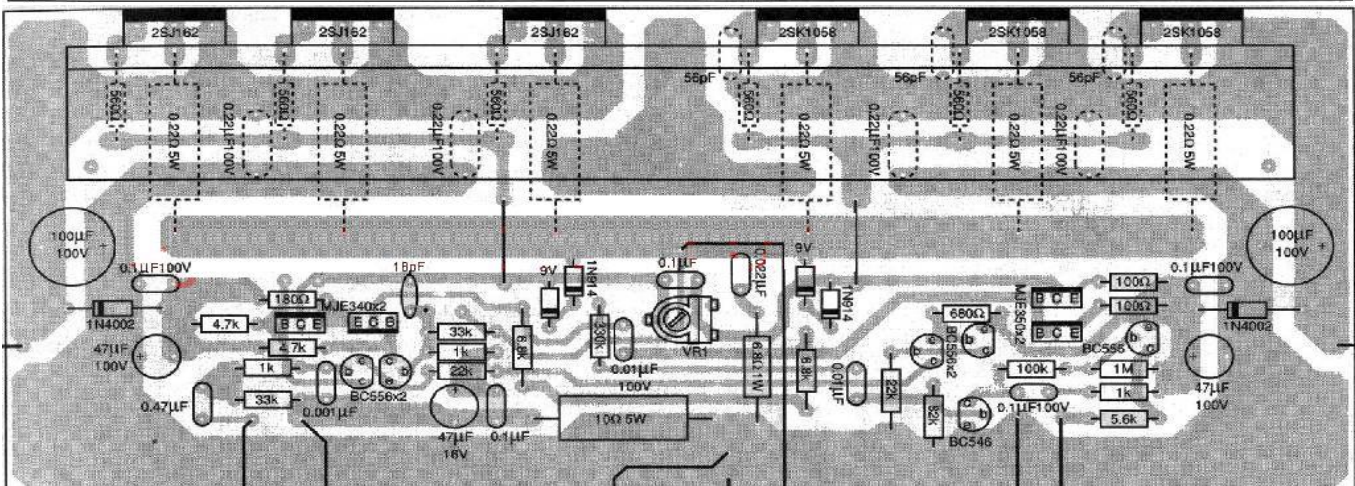
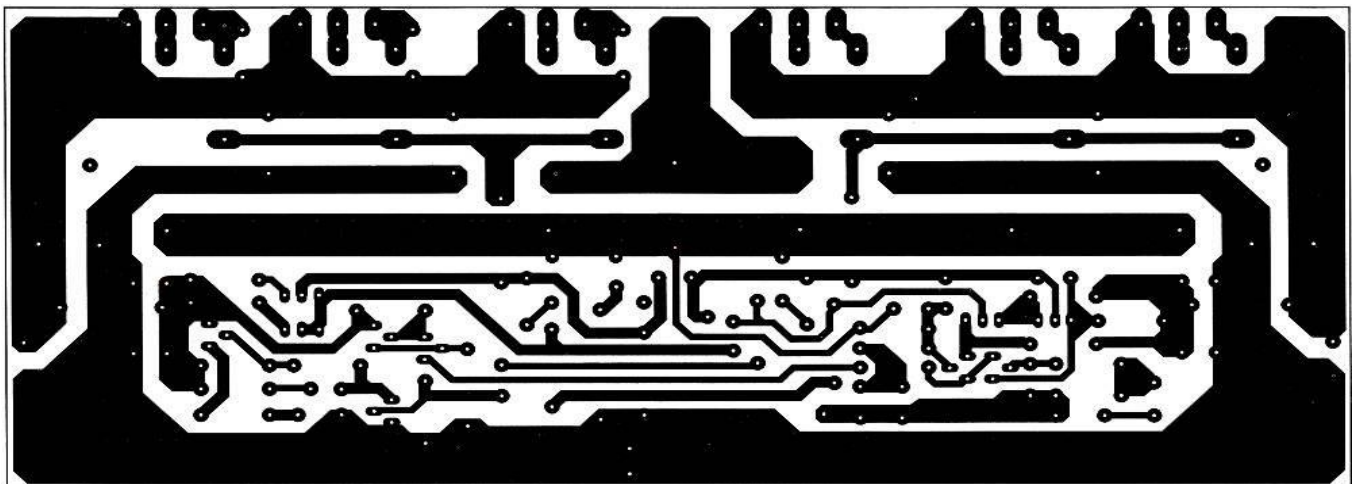
odyo ampli tr 240w 02-19 vu metre

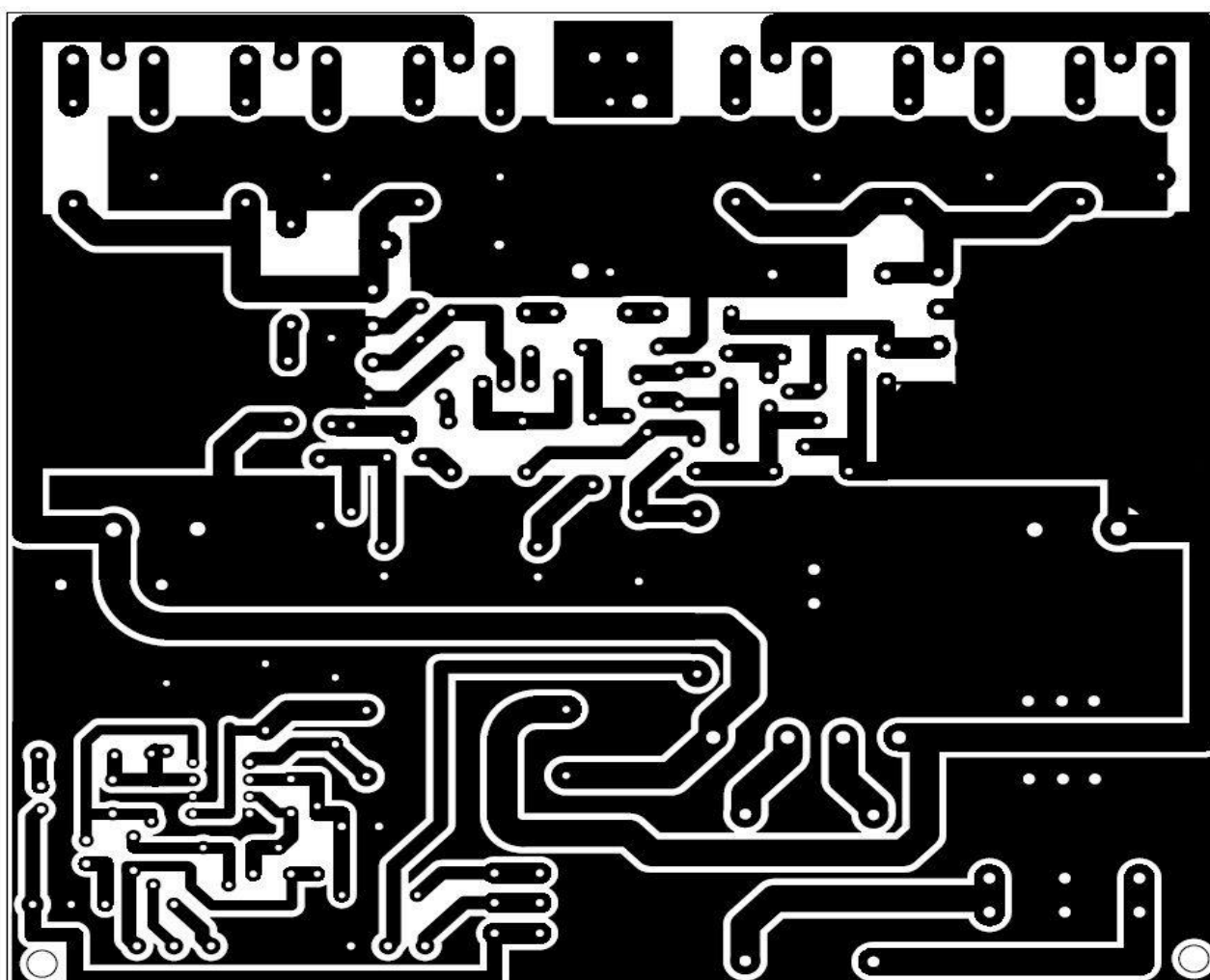
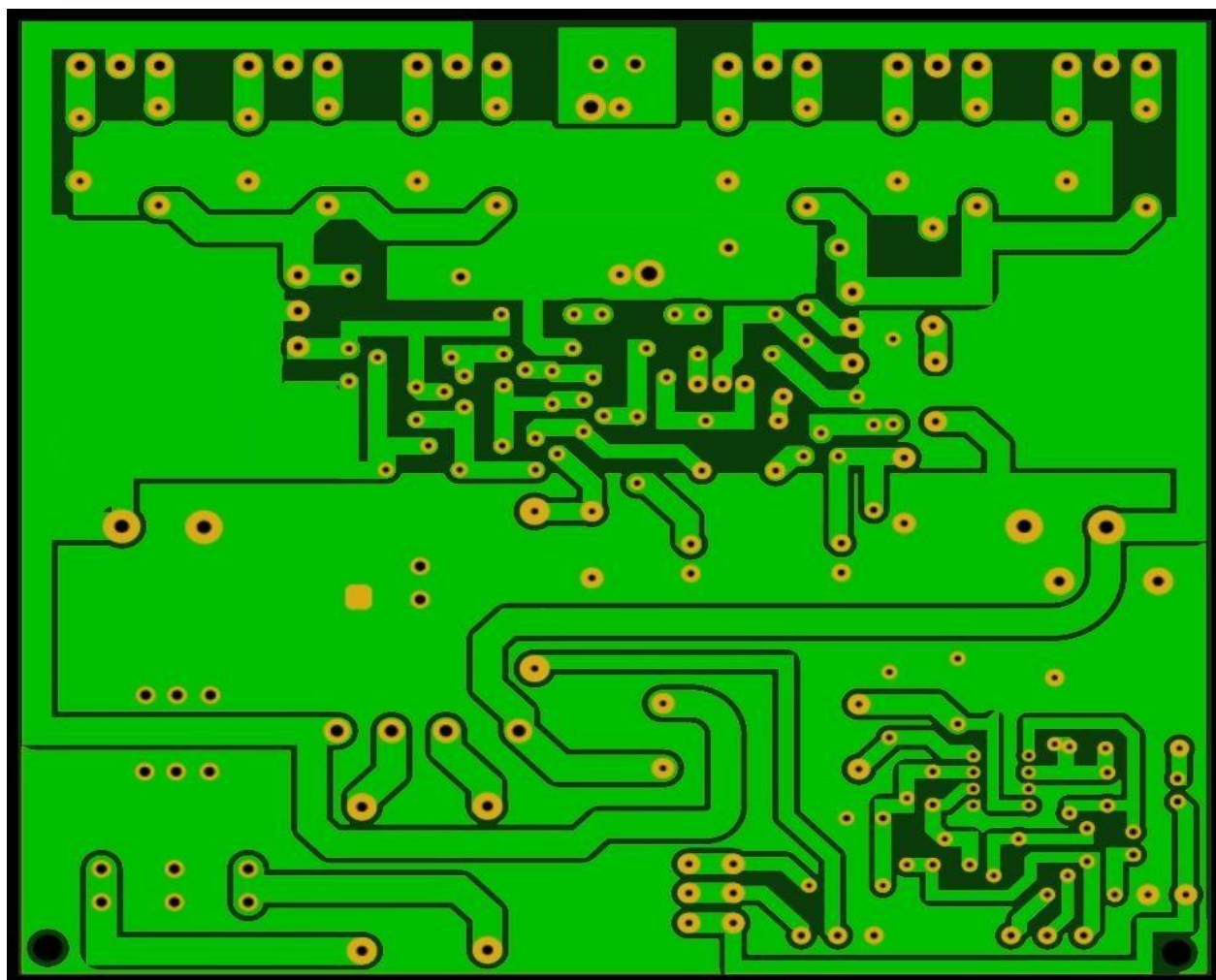


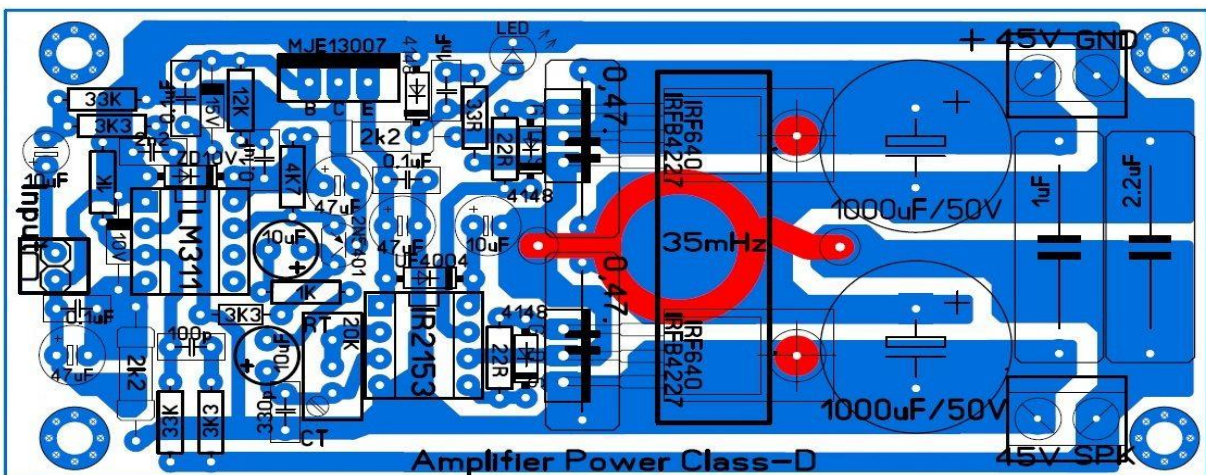


odyo ampli tr 250w 01-01

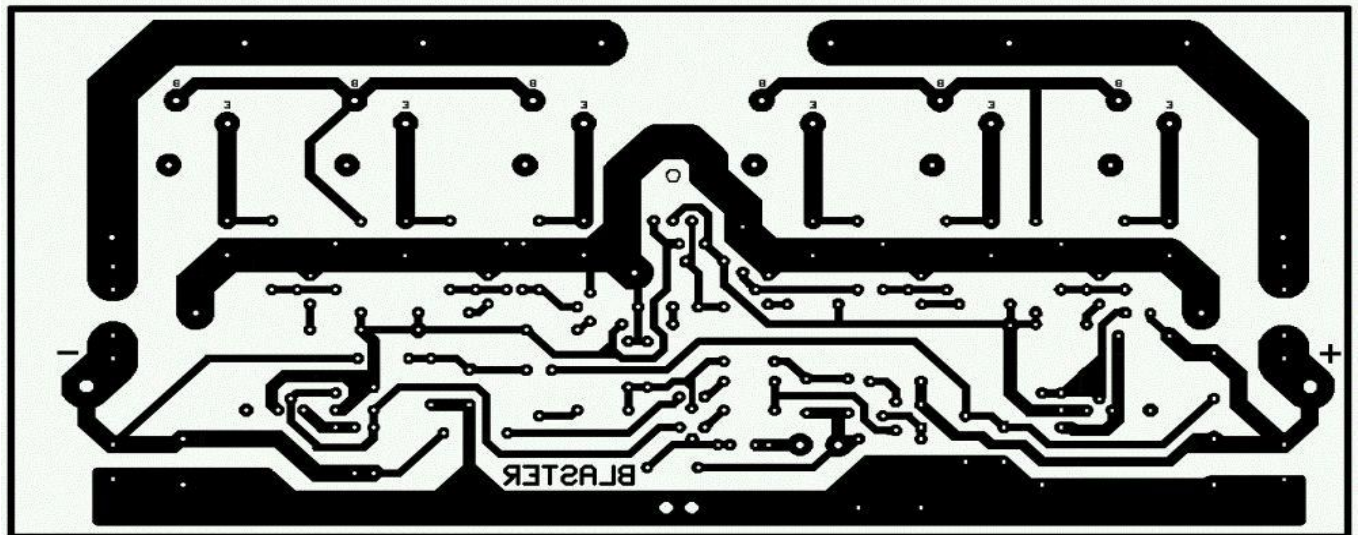
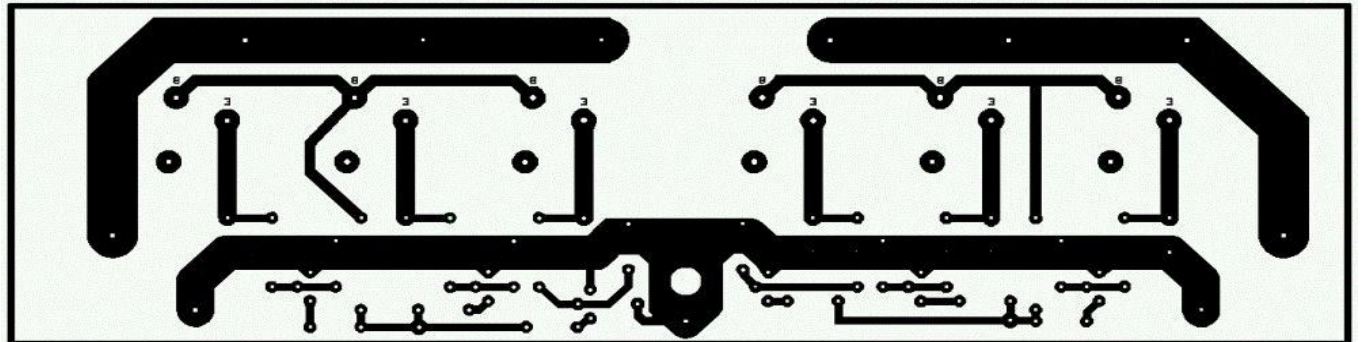
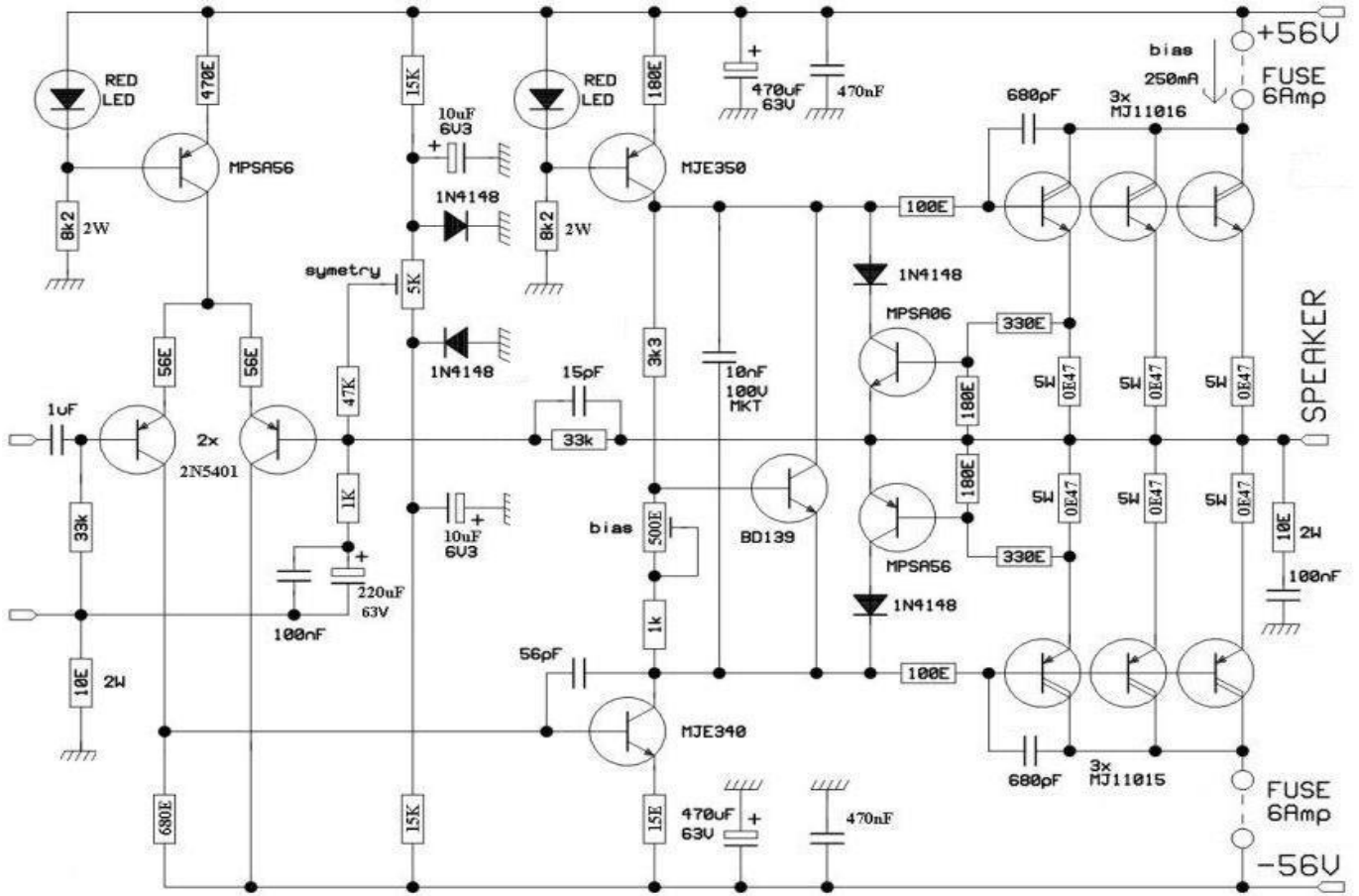


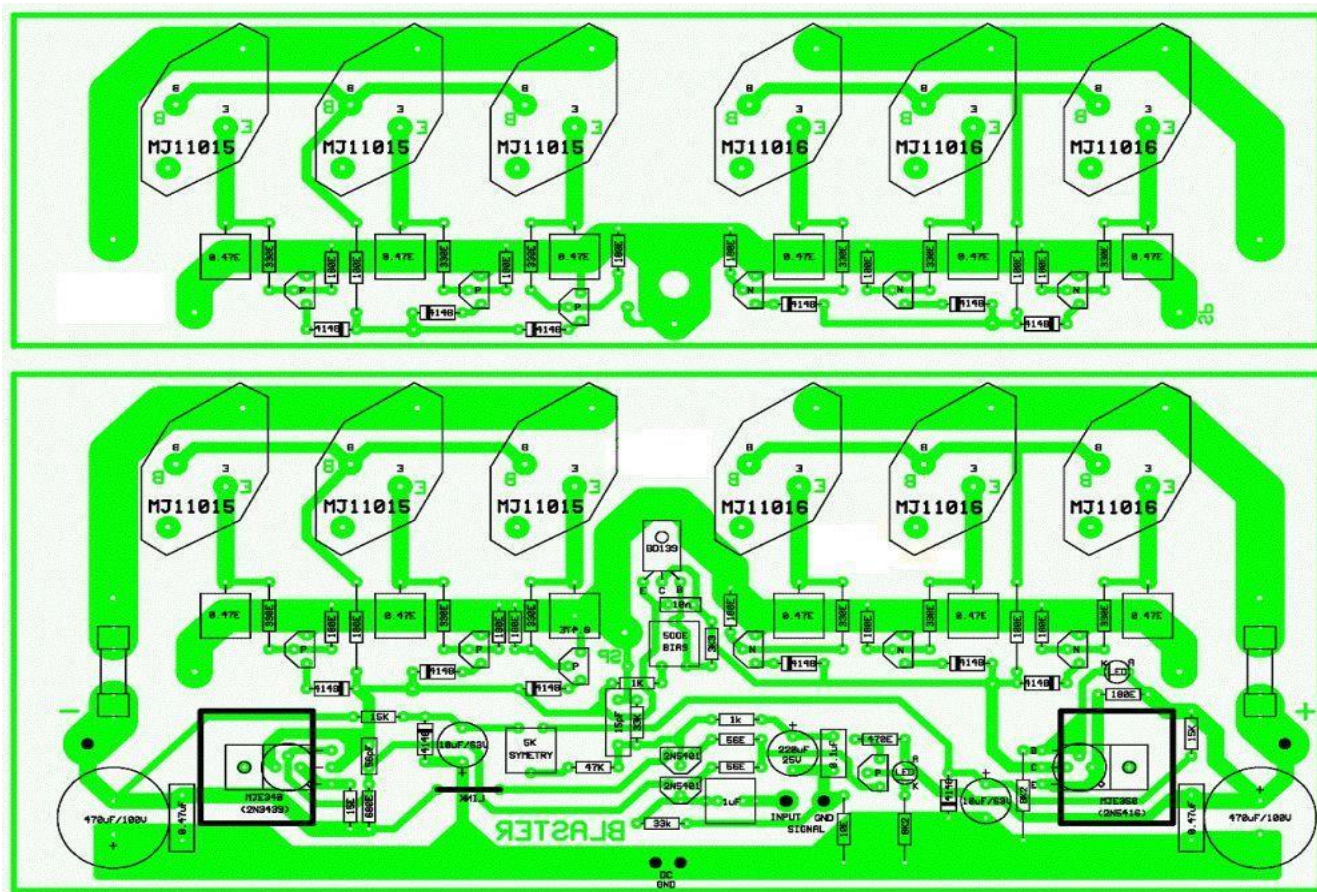




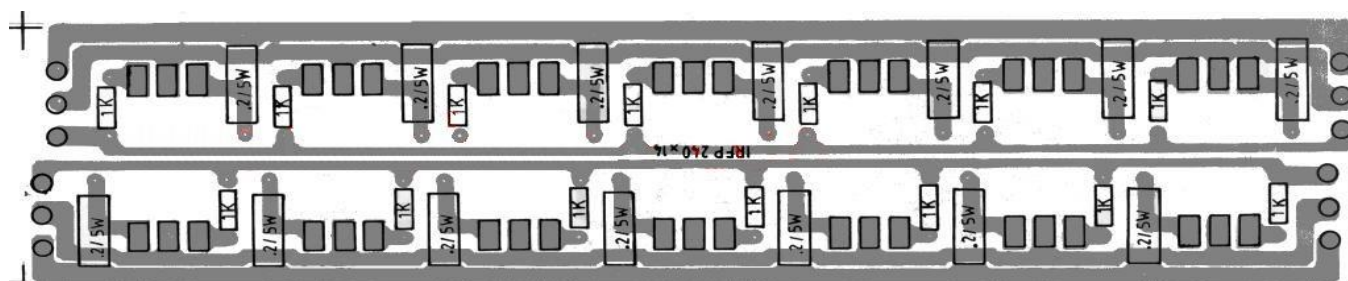
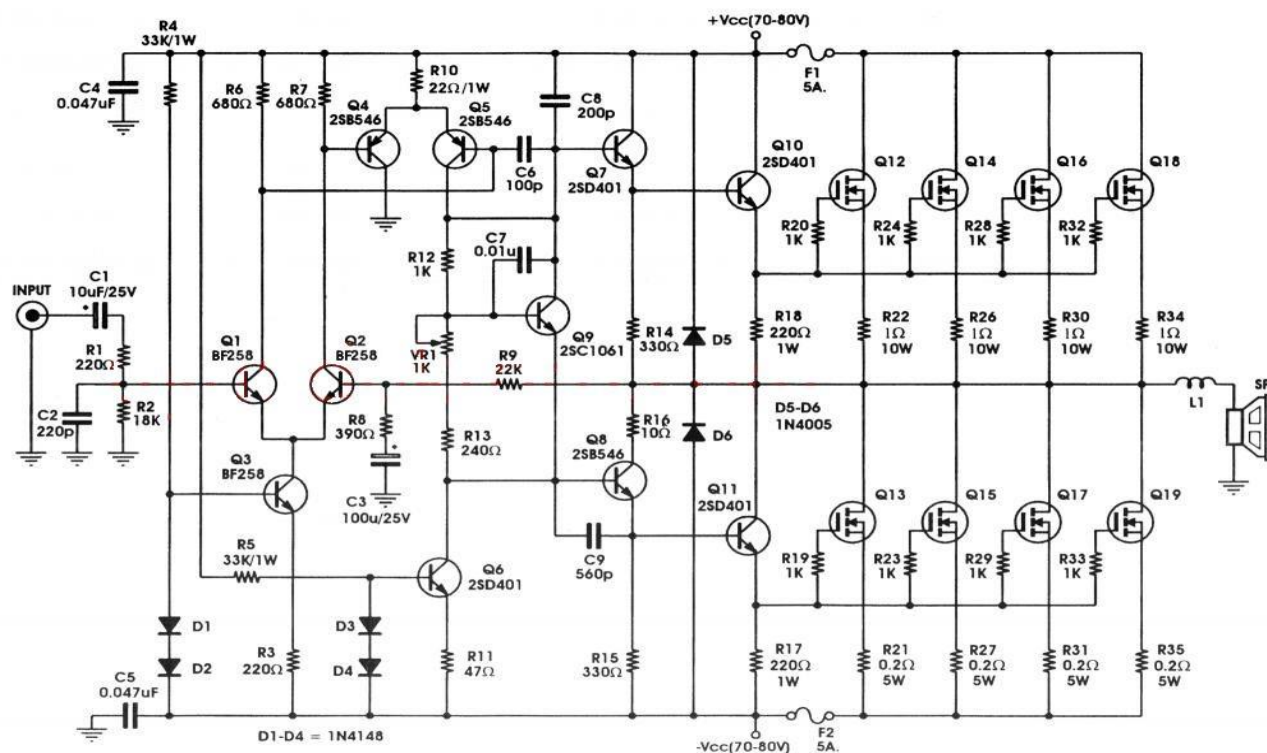


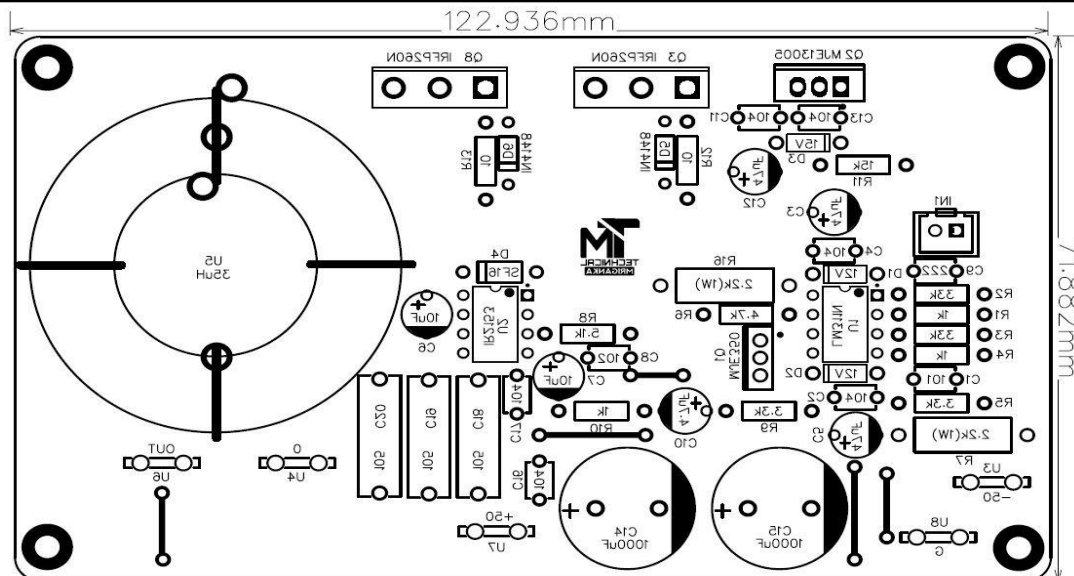
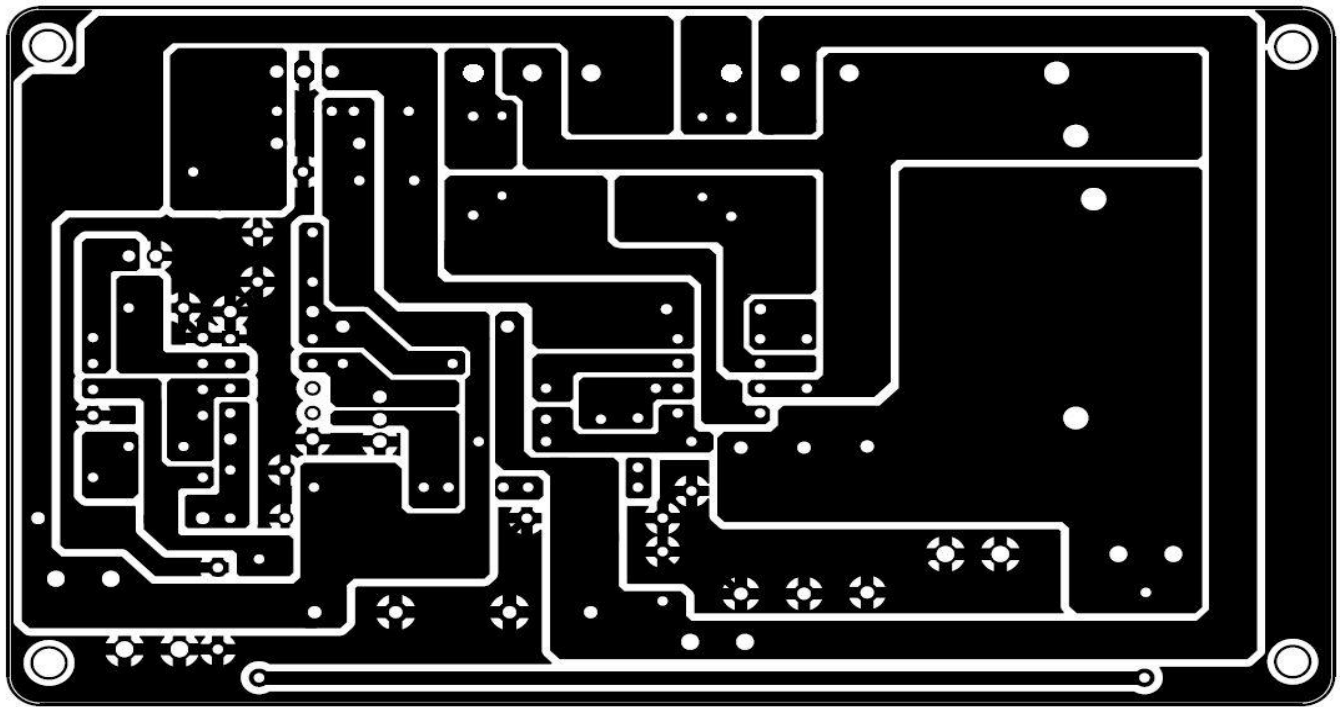
odyo ampli tr 400w 01-01





odyo ampli tr 400w 02-01





odyo ampli tr 400w 04-01

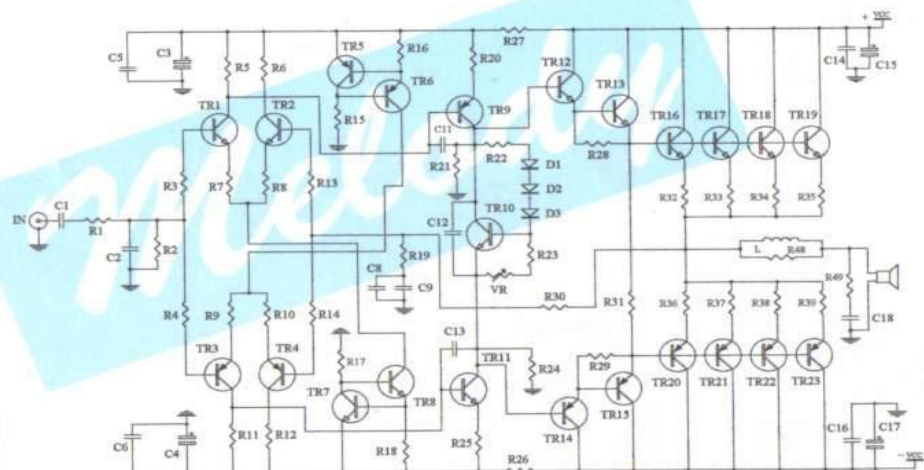


400W POWER AMPLIFIER

POWER OUTPUT: 400W VOLTAGE SUPPLY: +/- 70V

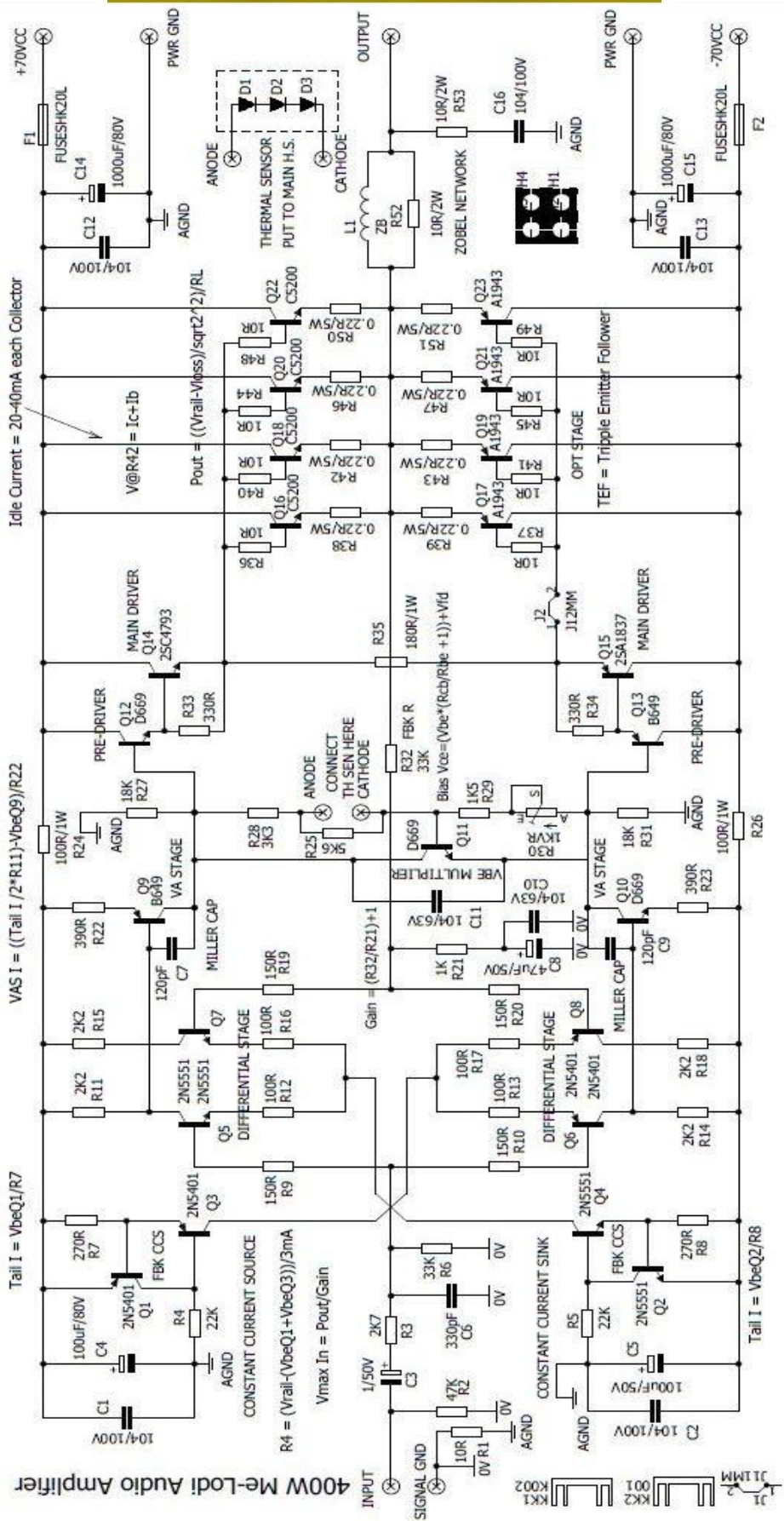
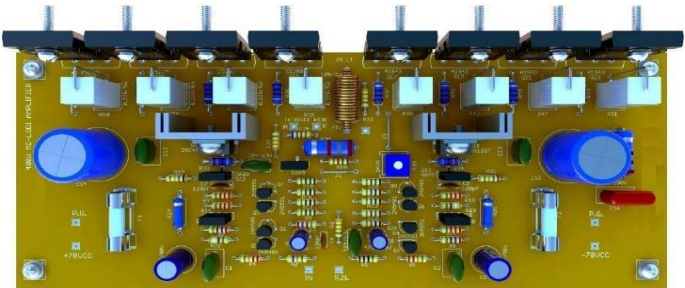
PART LIST

R1	2K7
R2,30	33K
R7,8,9,10,26,27	100
R3,4,13,14	150
R5,6,11,12	2K2
R15,17	22K
R16,18	270
R19	1K
R20,25	390
R21,24	18K
R22	3K3
R23	1K5
R28,29	330
R31	180/1W
R32,33,34,35,36,37,38,39	0.22/5W
R48,49	10/2W
C1	2U2/MKS,MKT
C2	330PF
C3,4	100UF/80V
C5,6,14,16	0.1UF/100V
C9,12,18	0.1UF/63V
C8	47UF/50V NP
C11,13	120PF
C15,17	1000UF/80V
D1,2,3	IN4148
VR	1K
TR1,2,7,8	BC546
TR3,4,5,6	BC556
TR9,14	B 649
TR11,12,10	D 669
TR13	TIP41C
TR15	TIP42C
TR16,17,18,19	C2922/MJ15003
TR20,21,22,23	A1216/MJ15004
VCC	+/-50V -70V



TR10 HARUS DIPASANG BERSAMA PENDINGIN POWER TRANSISTOR

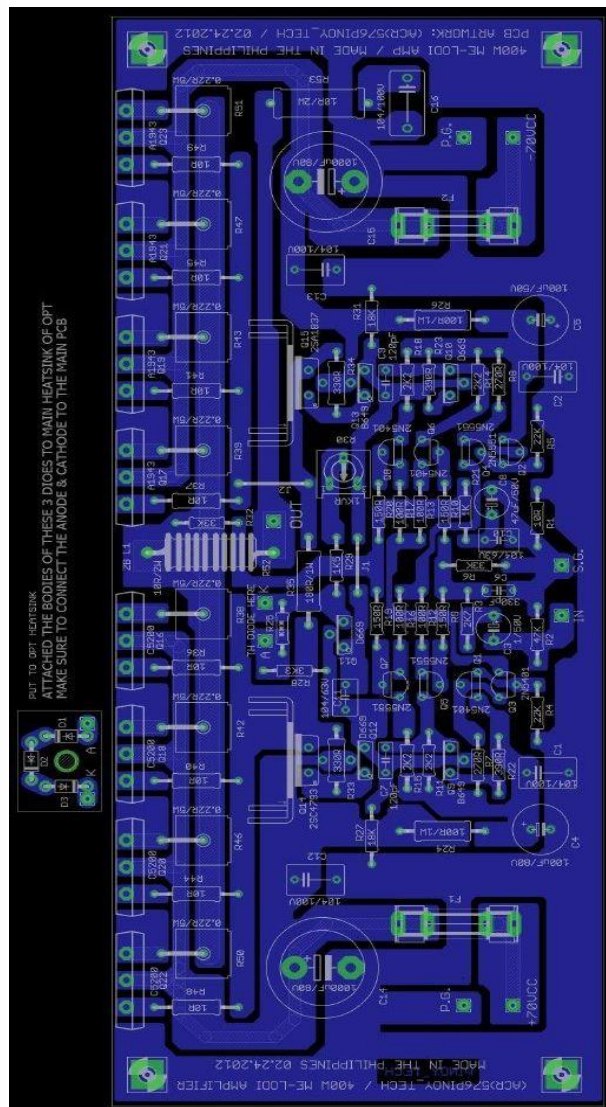
odyo ampli tr 400w 05-01 Me-Lodi

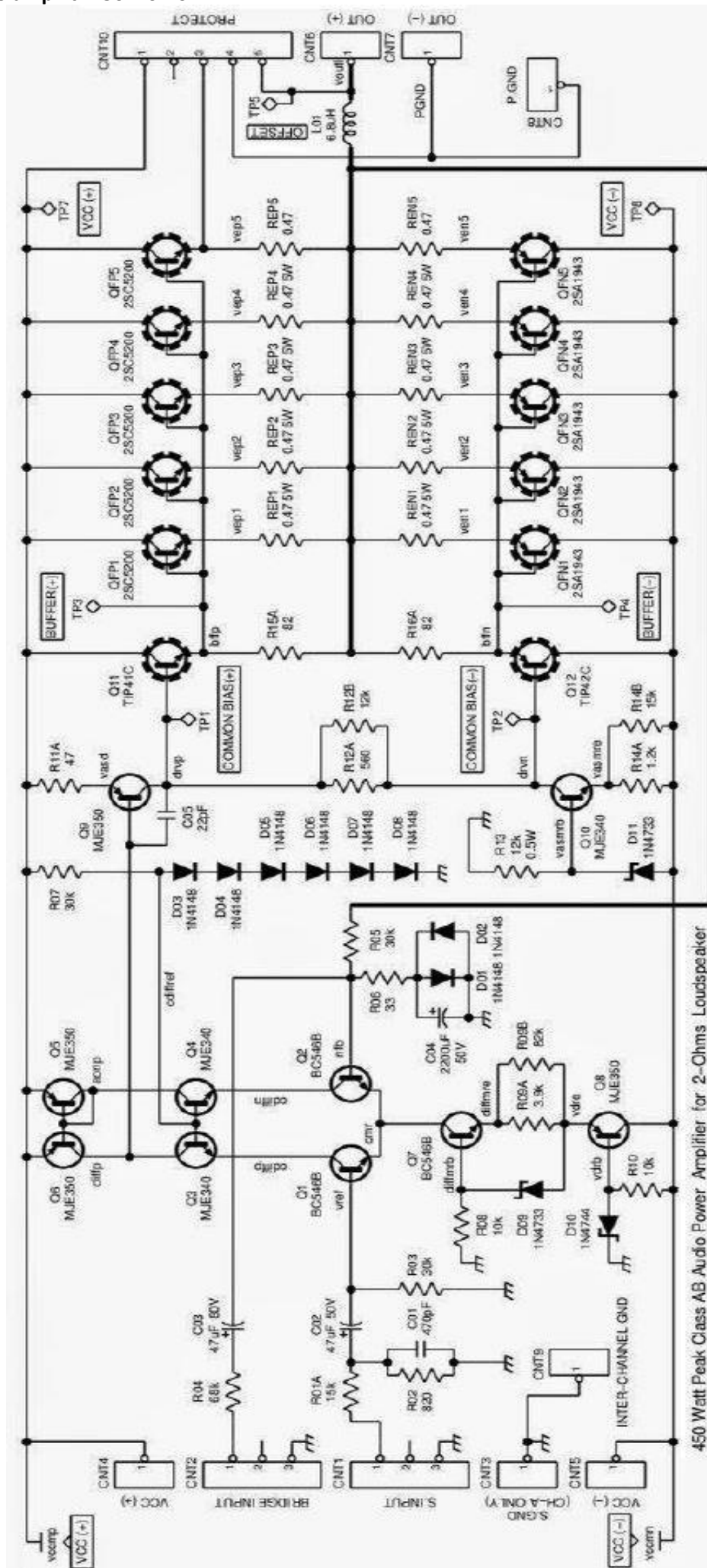


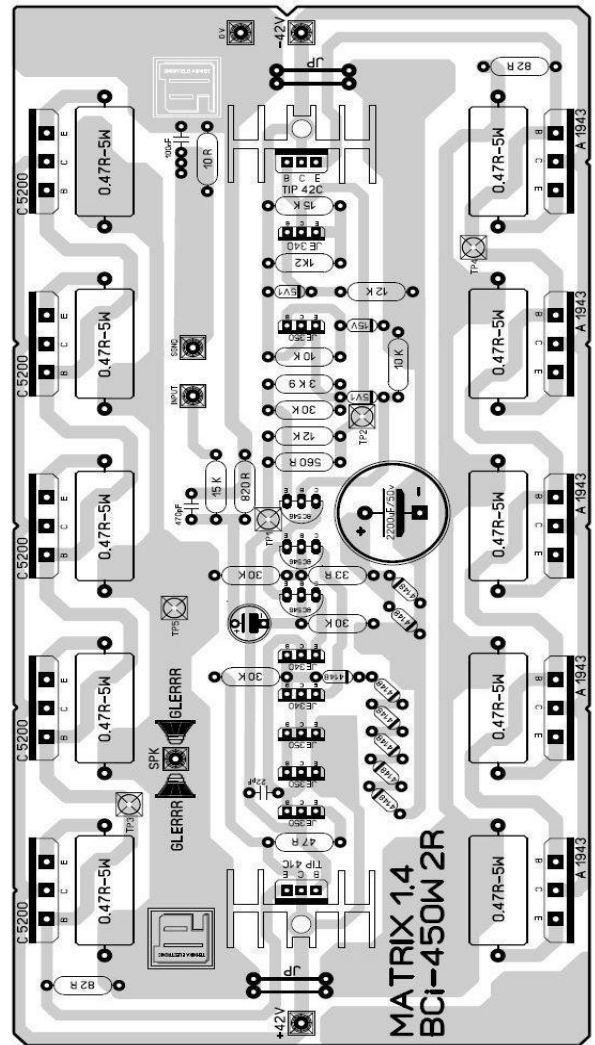
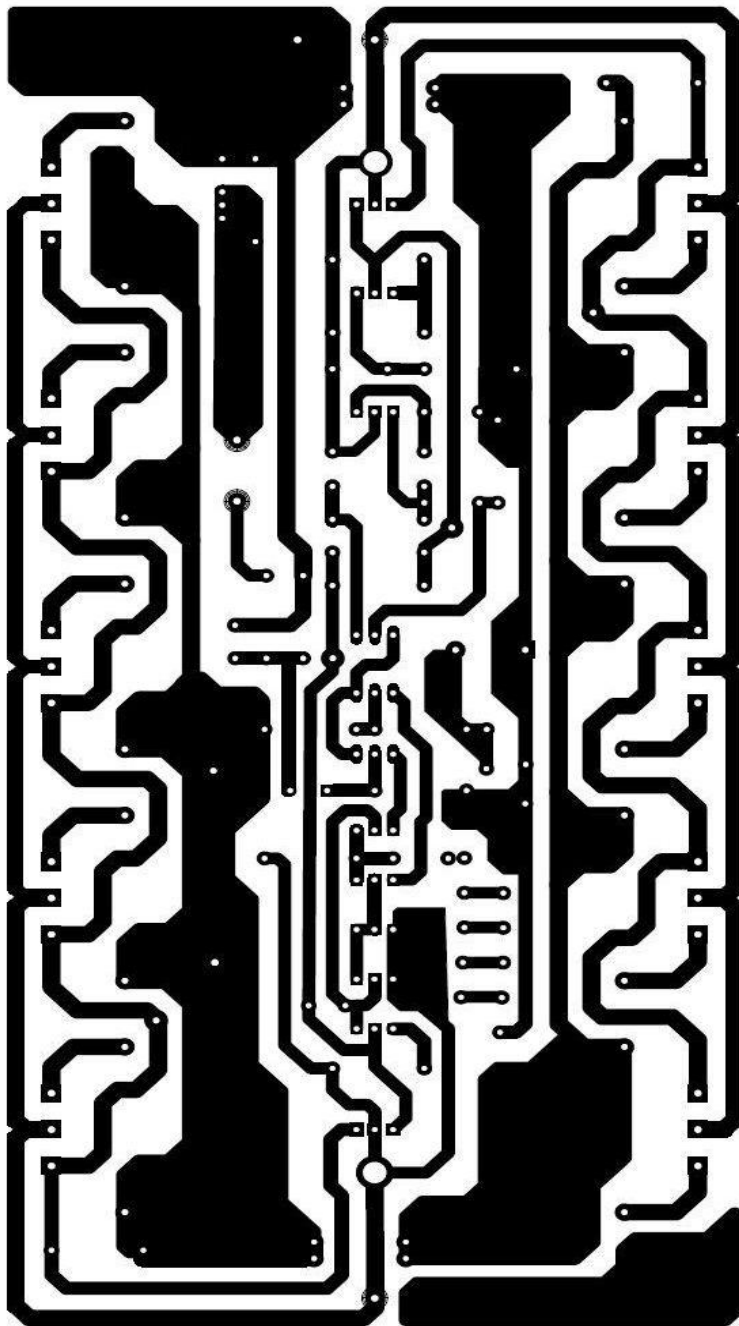
mm00.053

mm00.08

PINDY_TCH

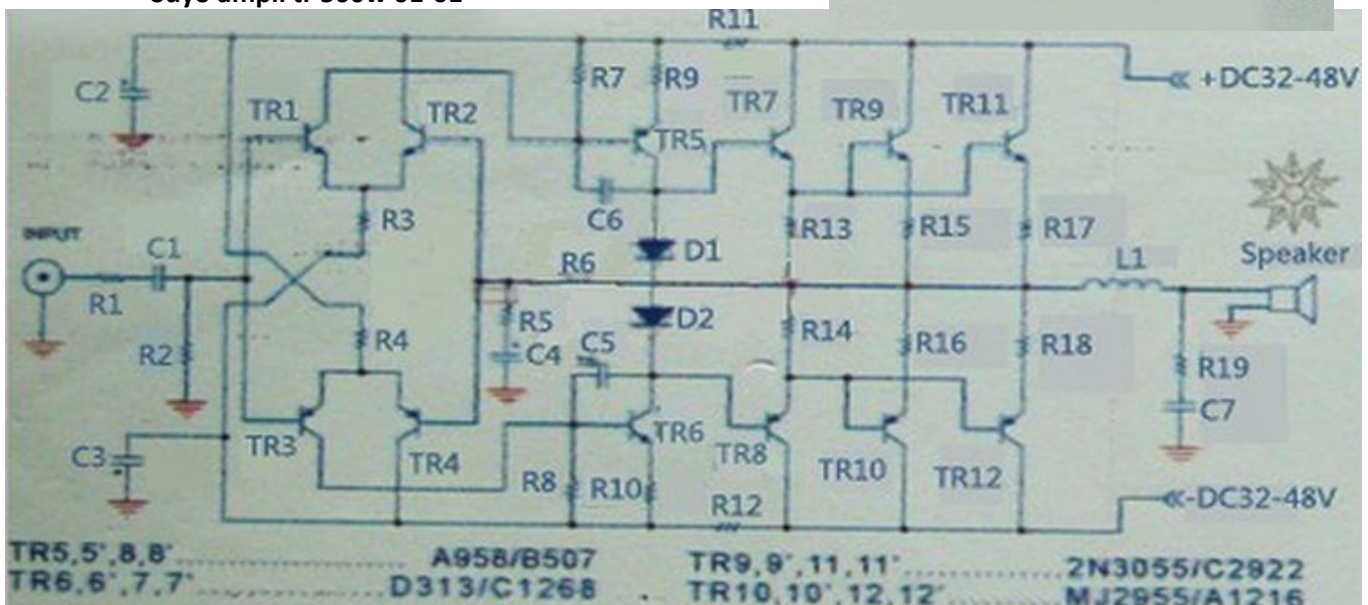


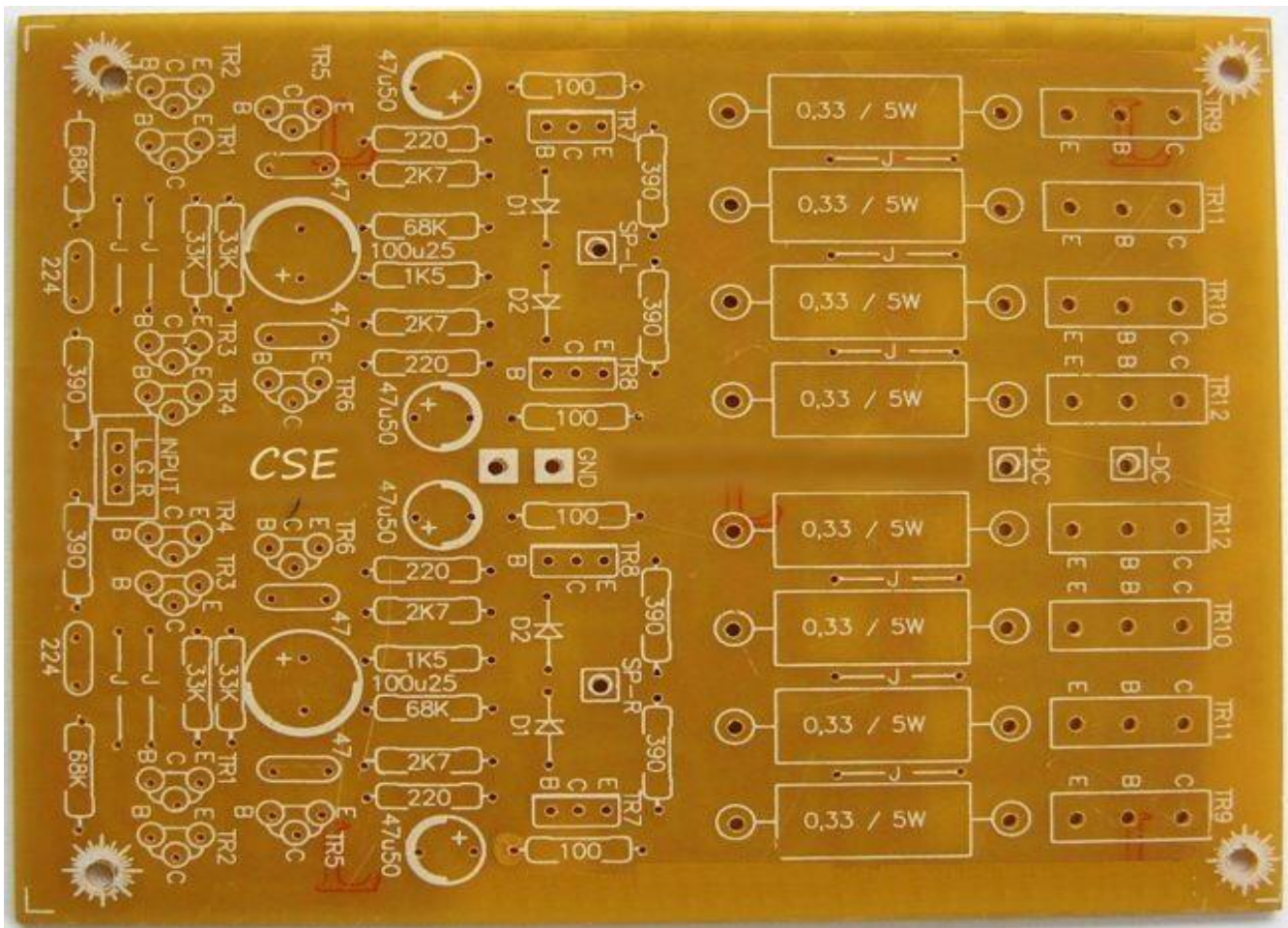
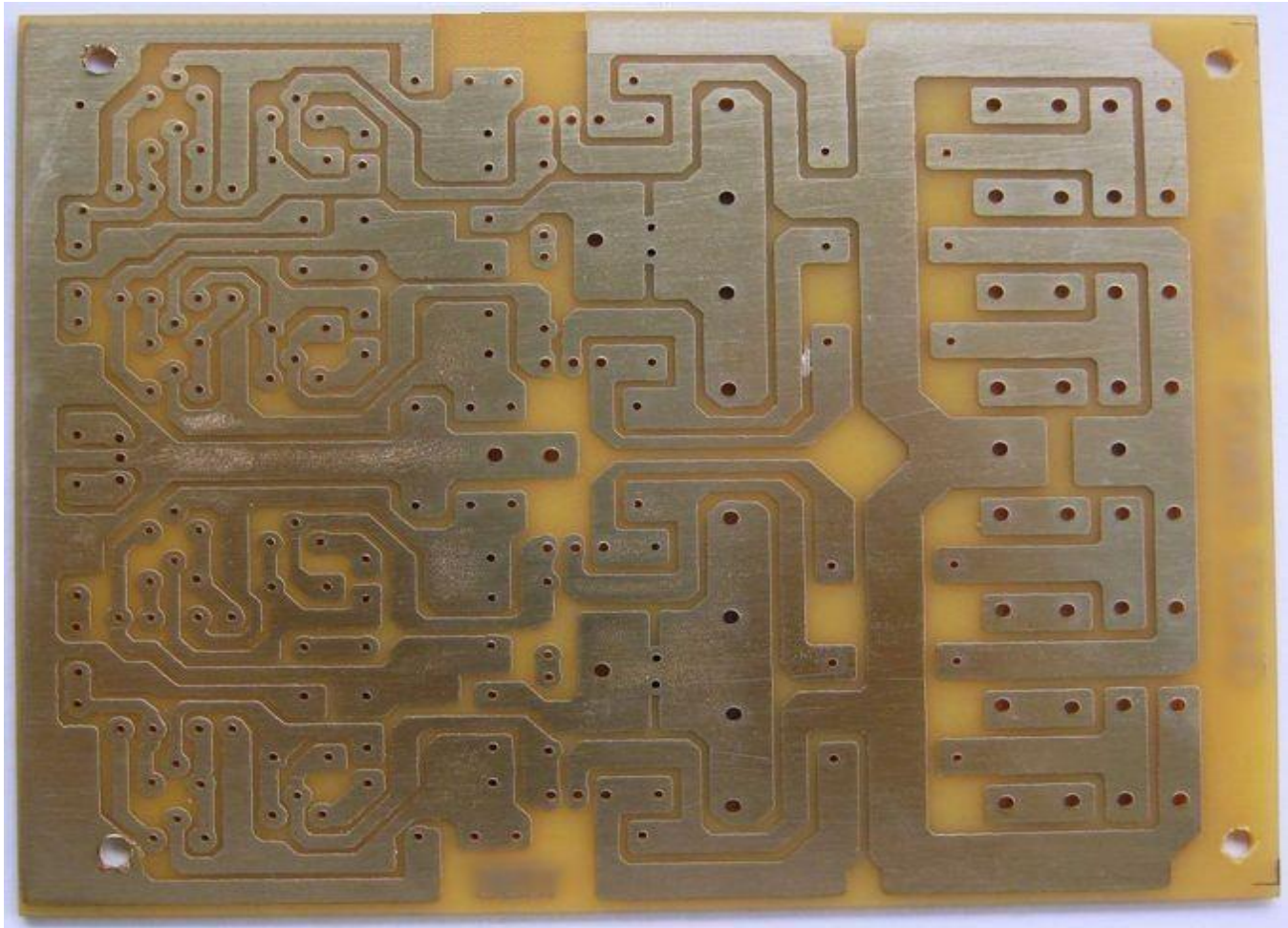


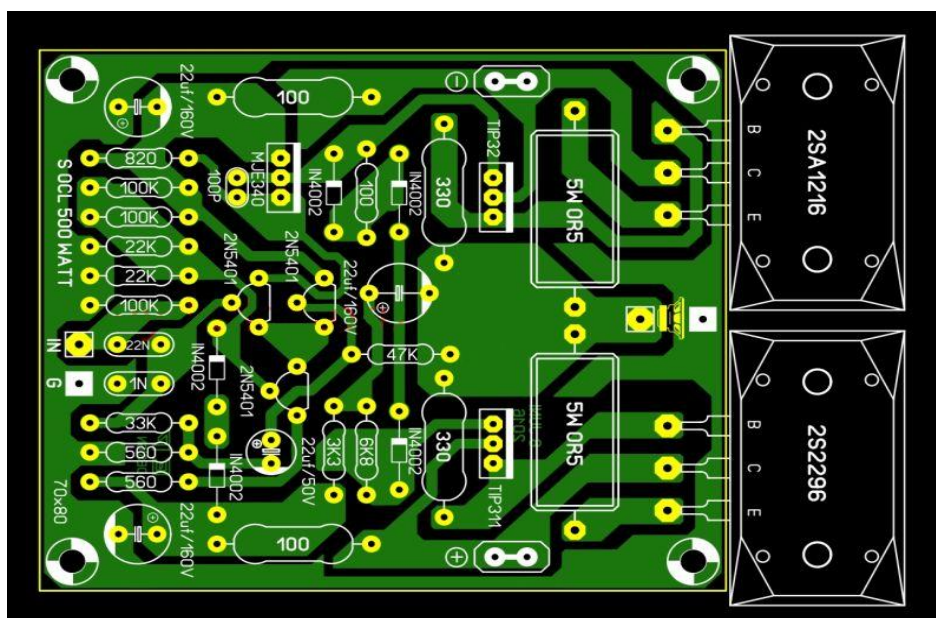
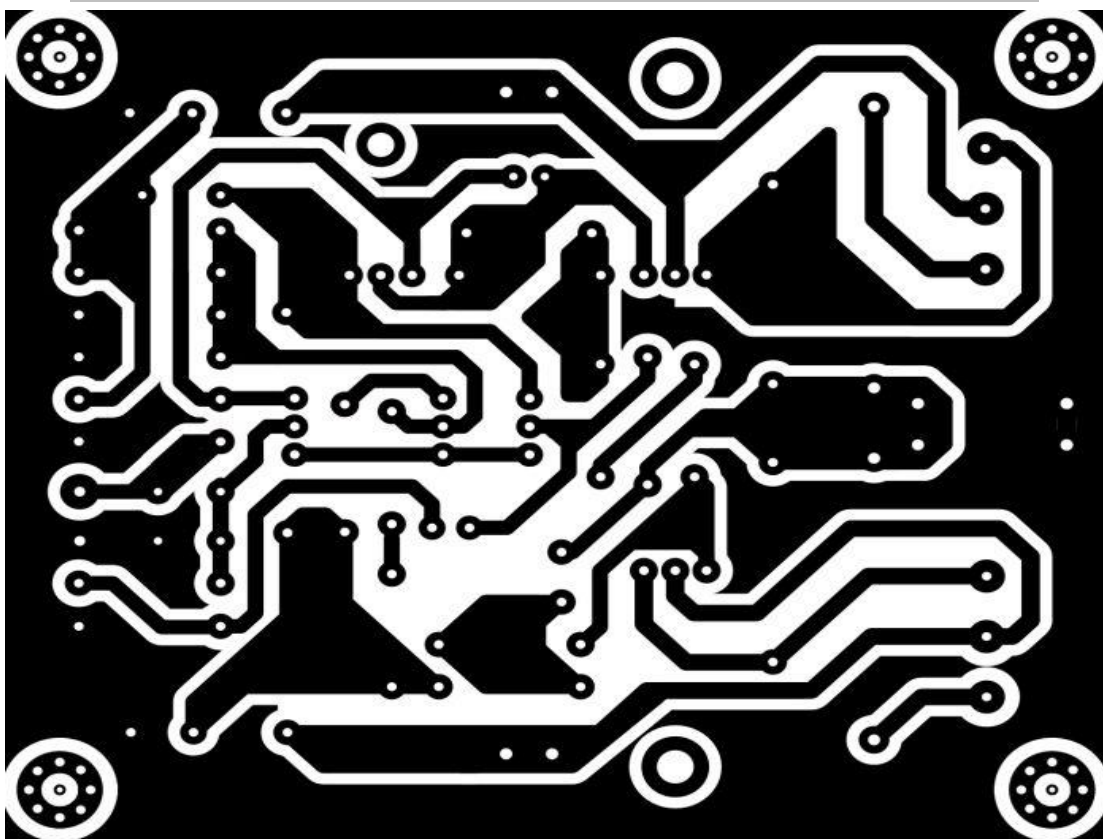
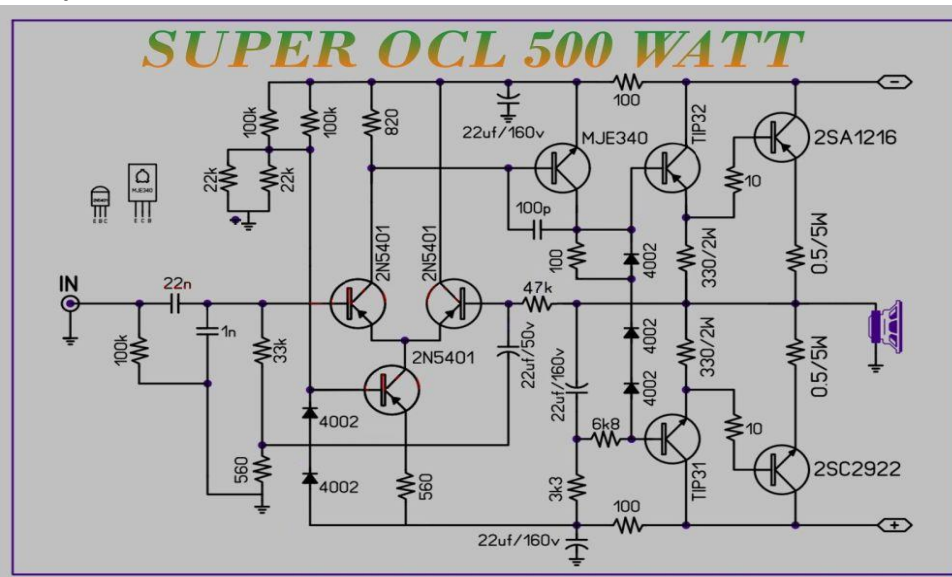


R1, 1', 13, 13', 14, 14'	390R
R2, 2', 2', 2'	68K
R3, 3', 4, 4'	33K
R5, 5', 5', 5'	1K5
R6, 6', 6', 6'	39K
R7, 7', 8, 8'	2K7
R9, 9', 10, 10'	220R
R11, 11', 12, 12'	100R
R15, 15', 16, 16', 17, 17', 18, 18'	0, 33/5W
R19, 19', 19', 19'	10R/5W
C1, 1', 1', 1'	220nF
C2, 2', 3, 3'	47u50V
C4, 4', 4', 4'	100u50V
C5, 5', 6, 6'	47pF
C7, 7', 7', 7'	47nF
D1, 1', 2, 2'	1N4001
TR1, 1', 2, 2'	D438/D400
TR3, 3', 4, 4'	B560

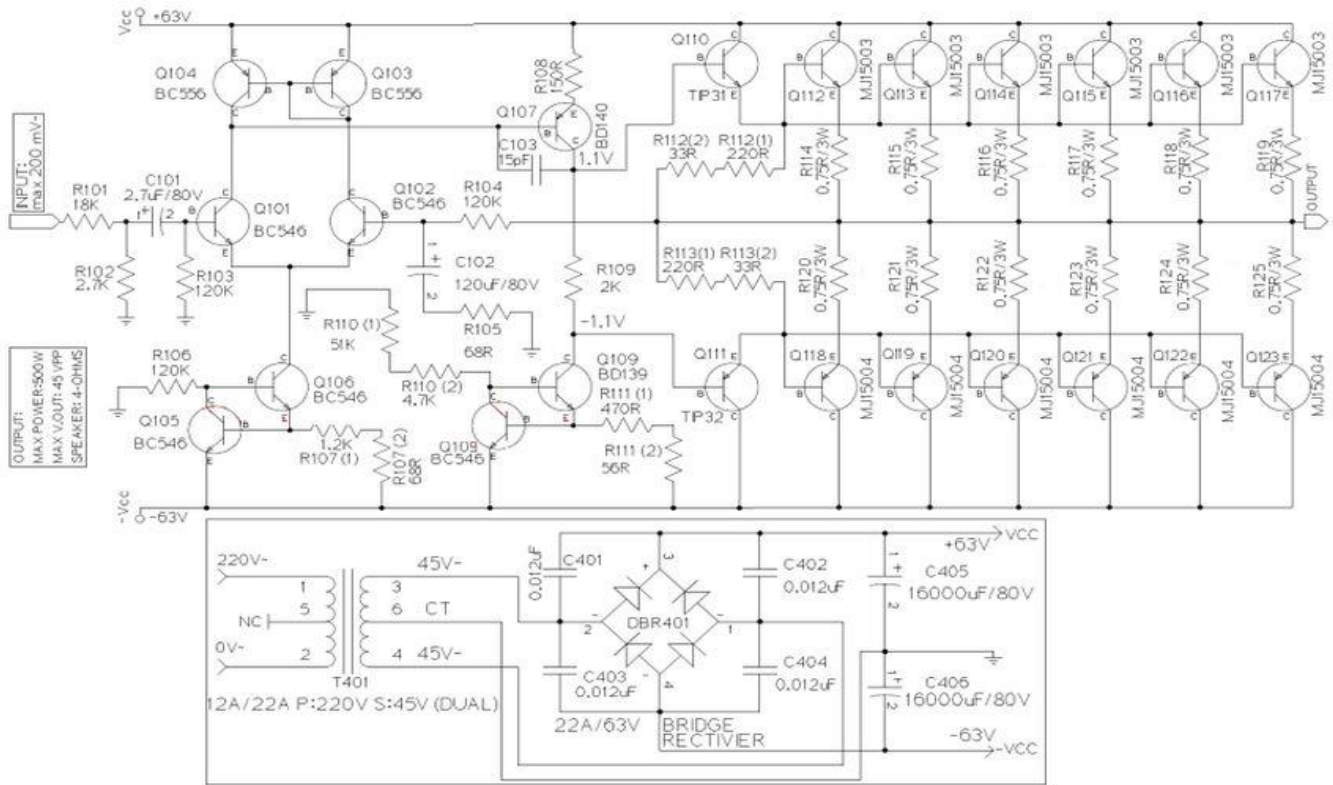
odyo ampli tr 500w 01-01



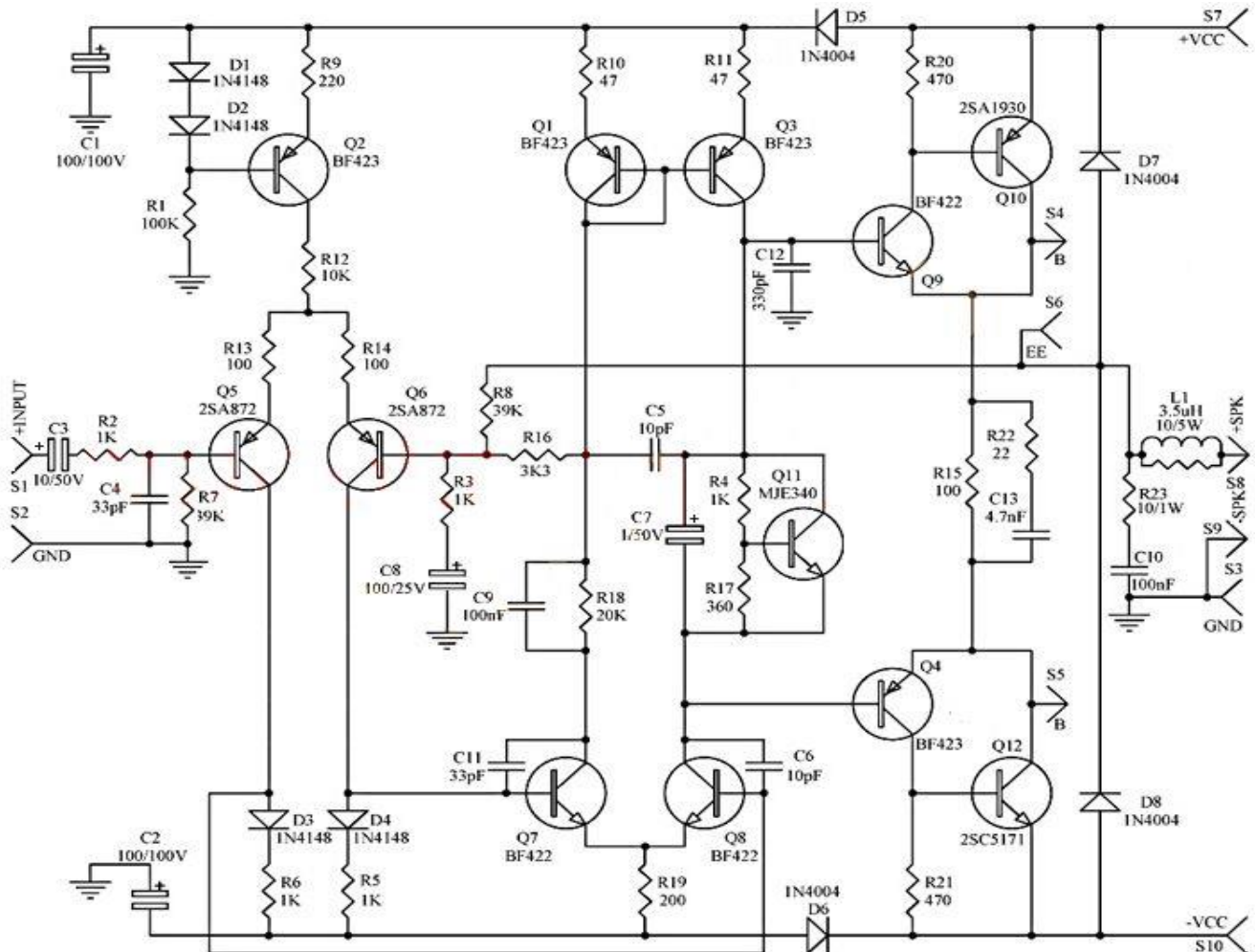


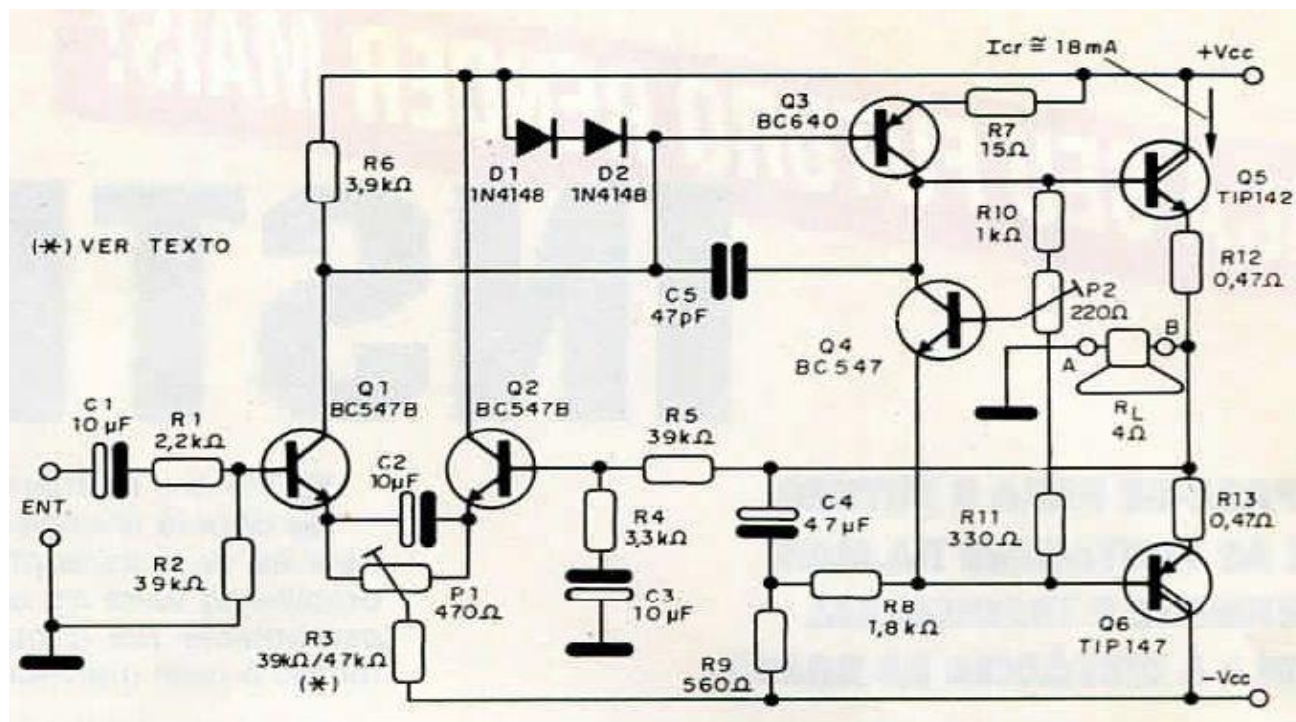


odyo ampli tr 500w 03-01



odyo ampli tr 500w 04-01





Semicondutores:

Q₁, Q₂ - BC547B - transistores NPN de uso geral

Q₃ - BC640 - transistor PNP driver

Q₄ - BC547 ou BC547B - transistor NPN de uso geral

Q₅ - TIP142 - transistor NPN Darlington de potência

Q₆ - TIP147 - transistor PNP Darlington de potência

D₁, D₂ - 1N4148 ou equivalentes - diodos de silício

Resistores:

R₁ - 2,2 kΩ x 1/2 W

R₂ - 39 kΩ x 1/2 W

R₃ - 47 kΩ ou 39 kΩ (ver texto)

R₄ - 3,3 kΩ x 1/8 W

R₅ - 39 kΩ x 1/8 W

R₆ - 3,9 kΩ x 1/8 W

R₇ - 15 Ω x 1 W

R₈ - 1,8 kΩ x 1/2 W

R₉ - 560 Ω x 1 W

R₁₀ - 1 kΩ x 1/8 W

R₁₁ - 330 Ω x 1/8 W

R₁₂, R₁₃ - 0,47 Ω x 2 W - fio

P₁ - 470 Ω - trimpot

P₂ - 220 Ω - trimpot

Capacitores:

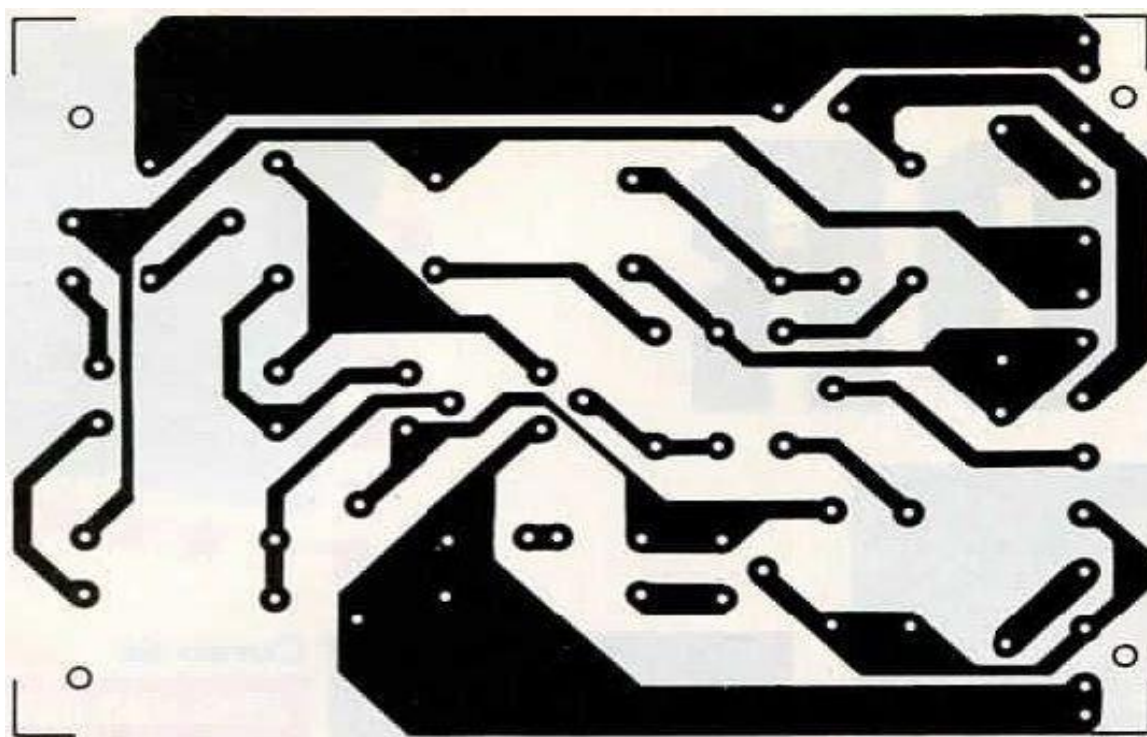
C₁, C₂, C₃ - 10 µF - eletrolíticos de 16 V

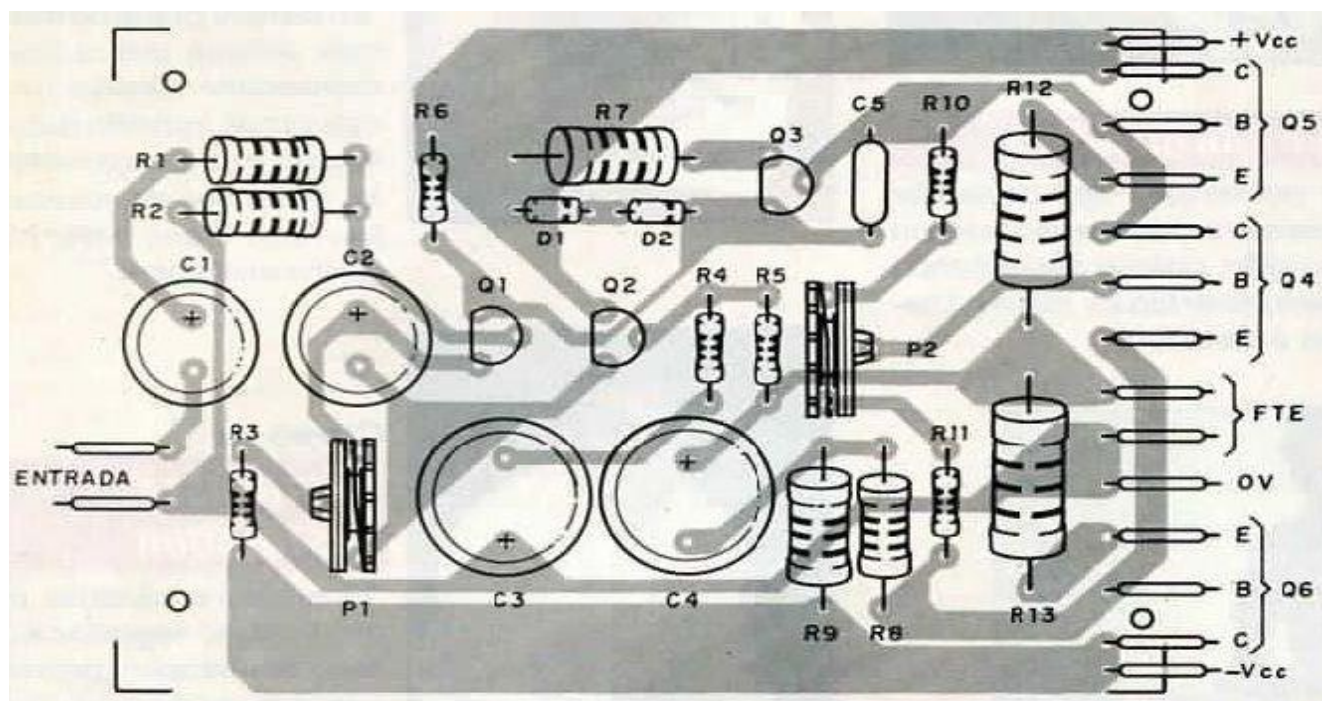
C₄ - 47 µF - eletrolítico de 50 V

C₅ - 47 pF - cerâmico

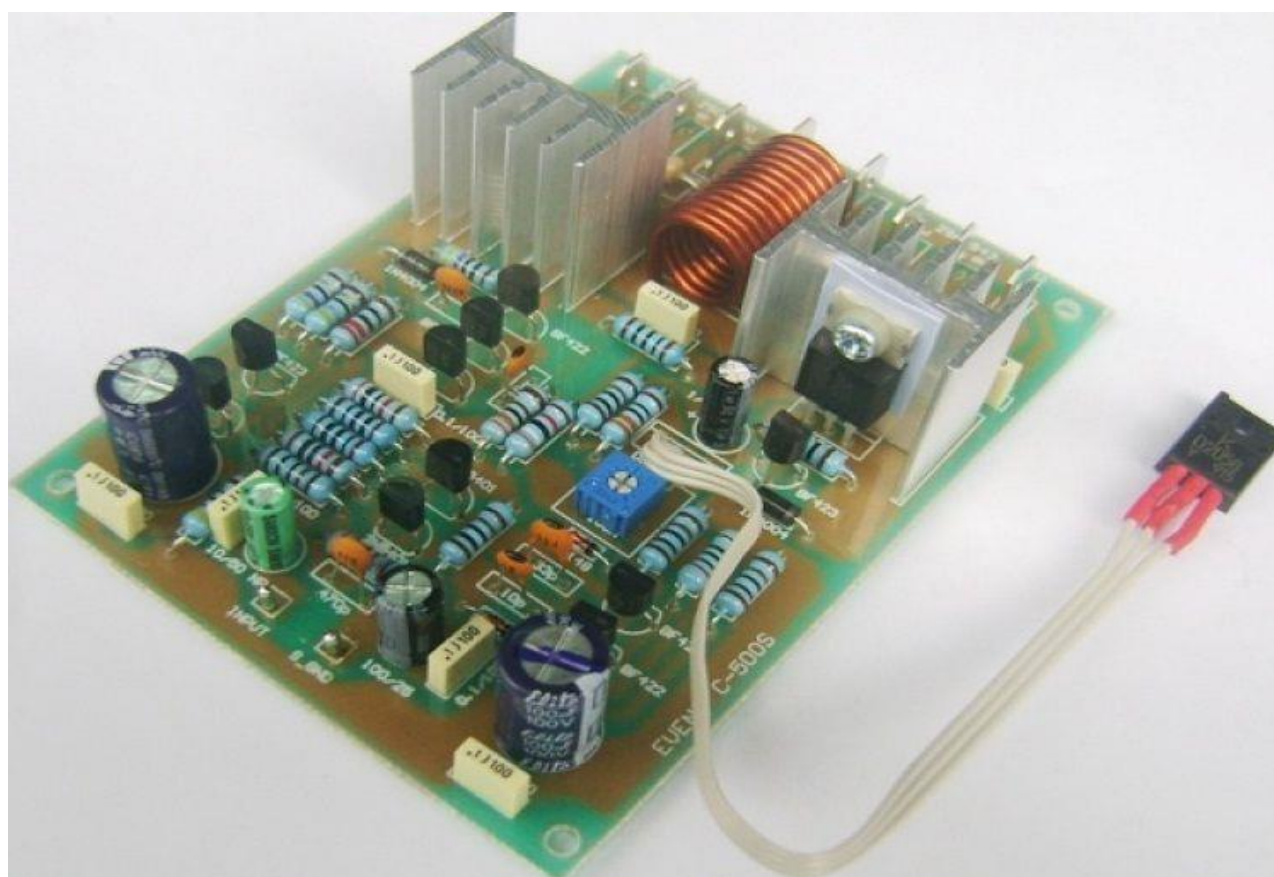
Diversos:

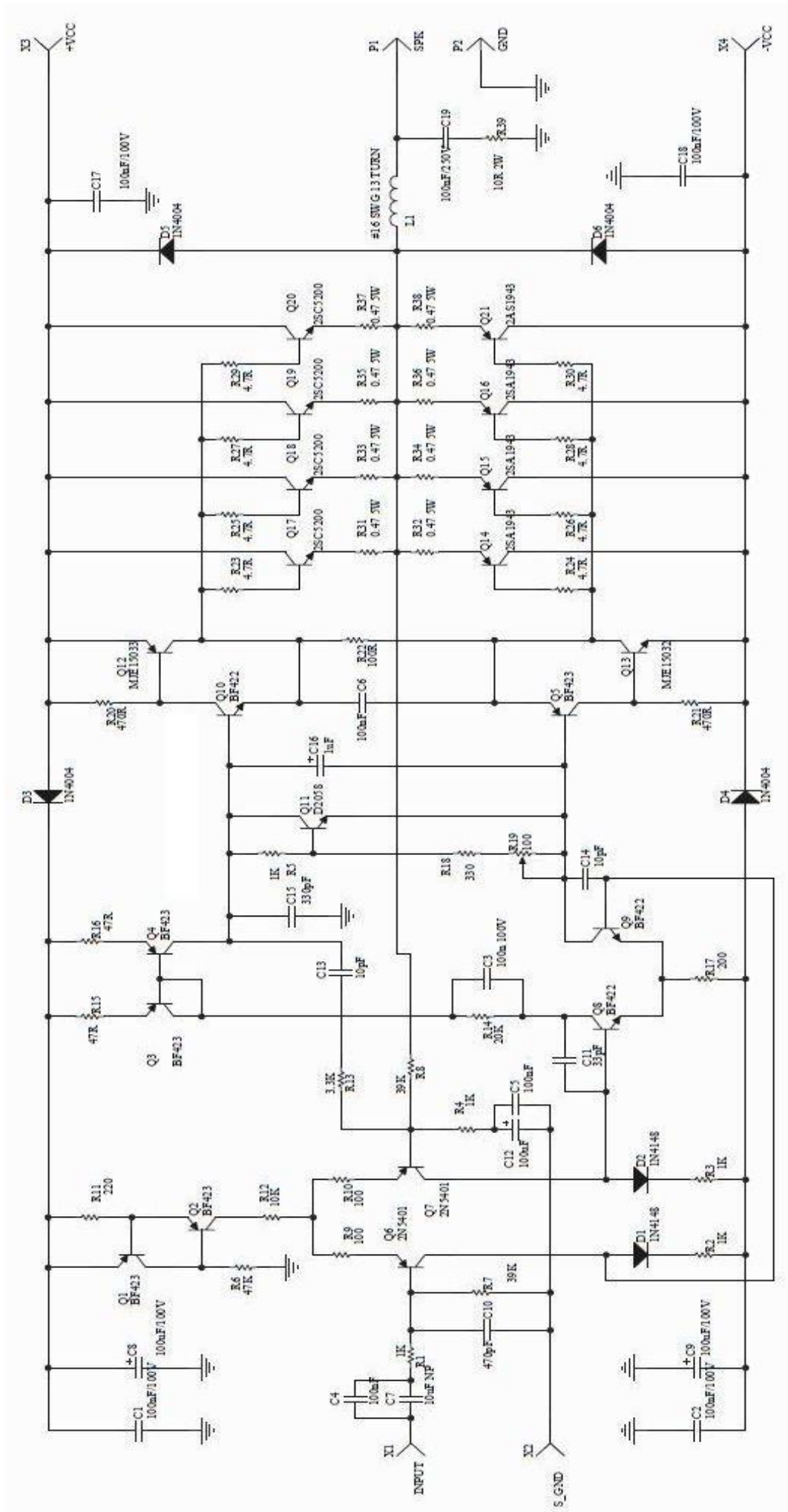
Placa de circuito impresso, radiadores de calor para os transistores de saída, caixa para montagem, material para fonte de alimentação, jaque de entrada, terminais de saída para o alto-falante, fios, solda etc.

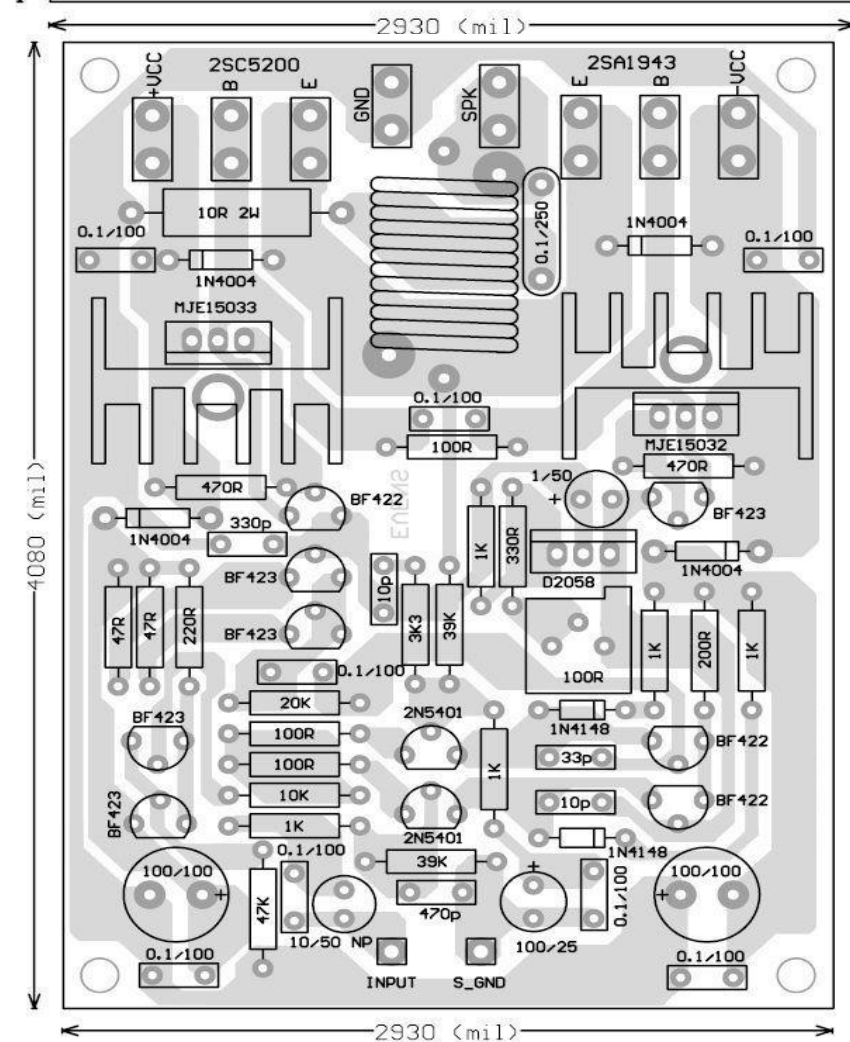
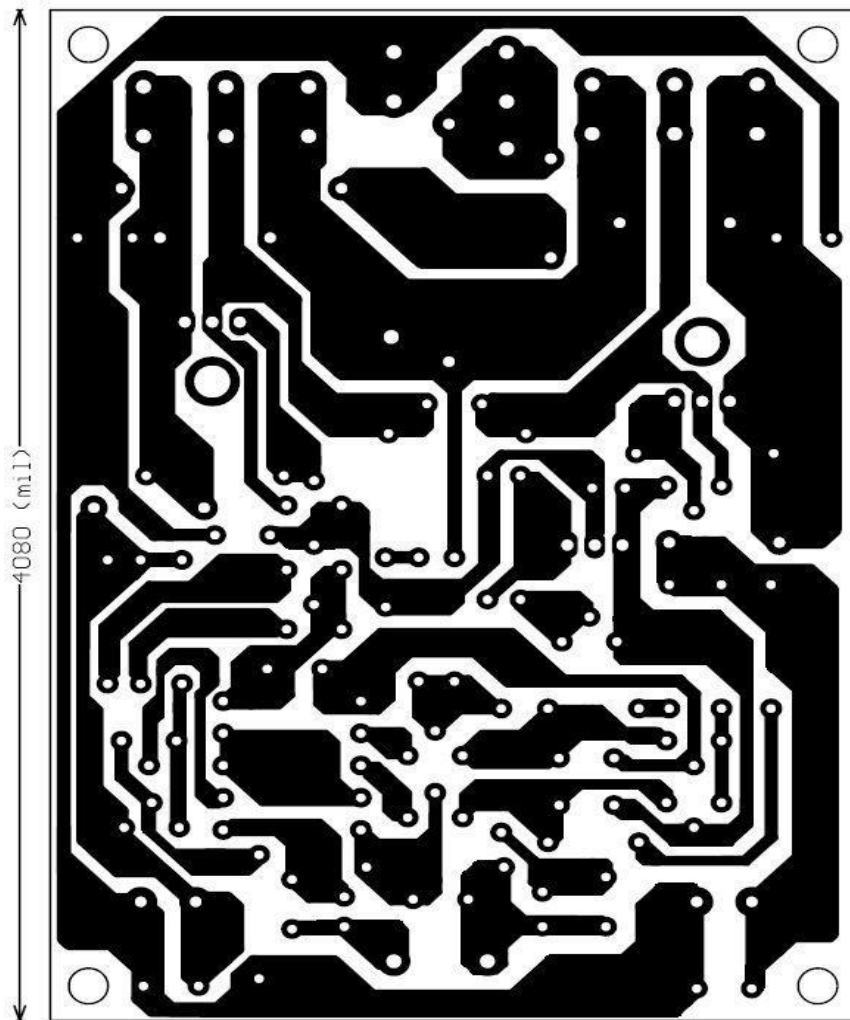


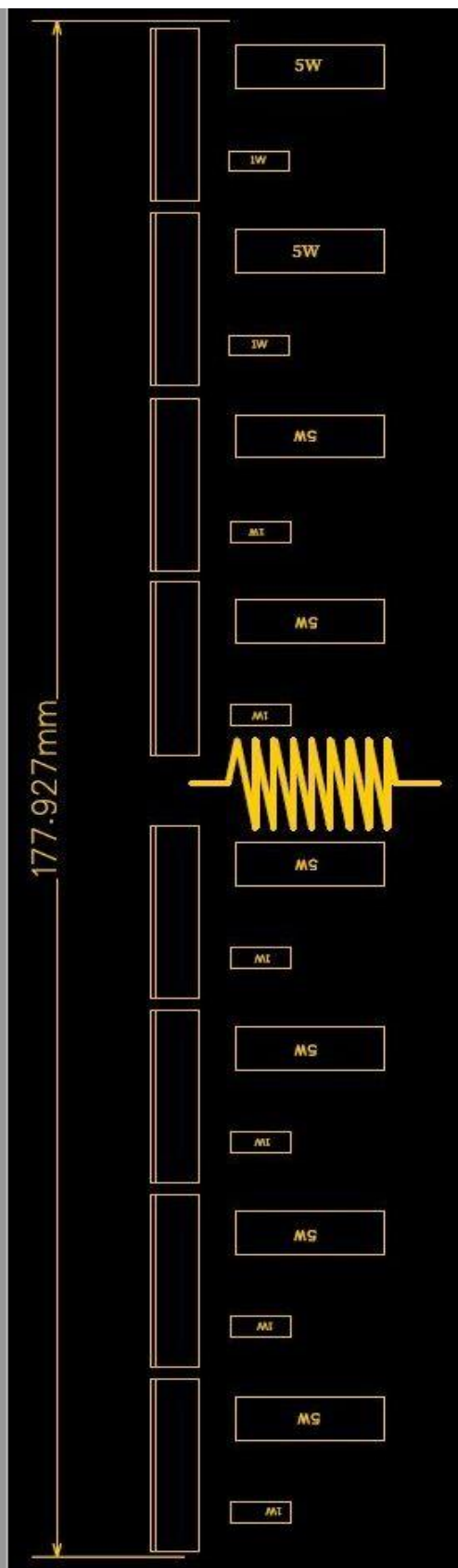
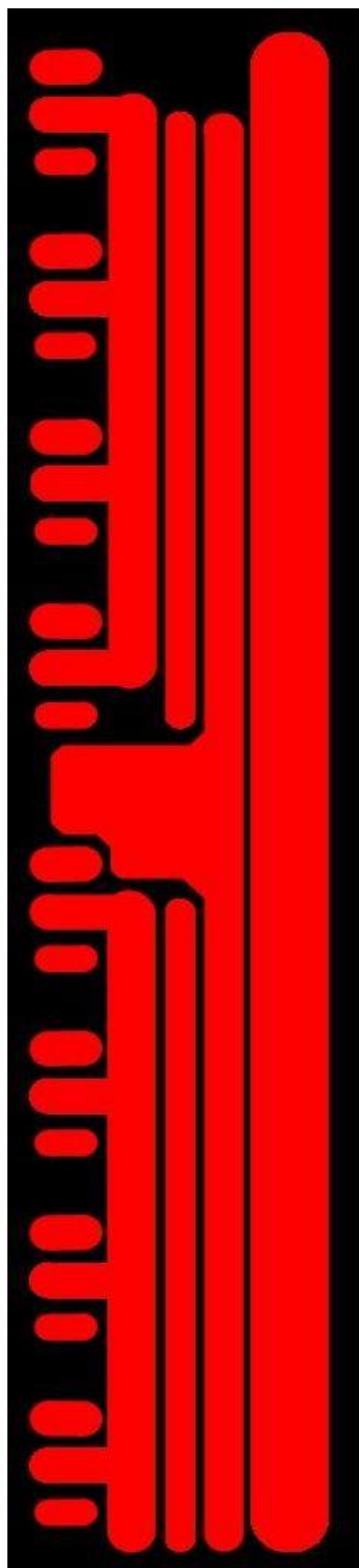
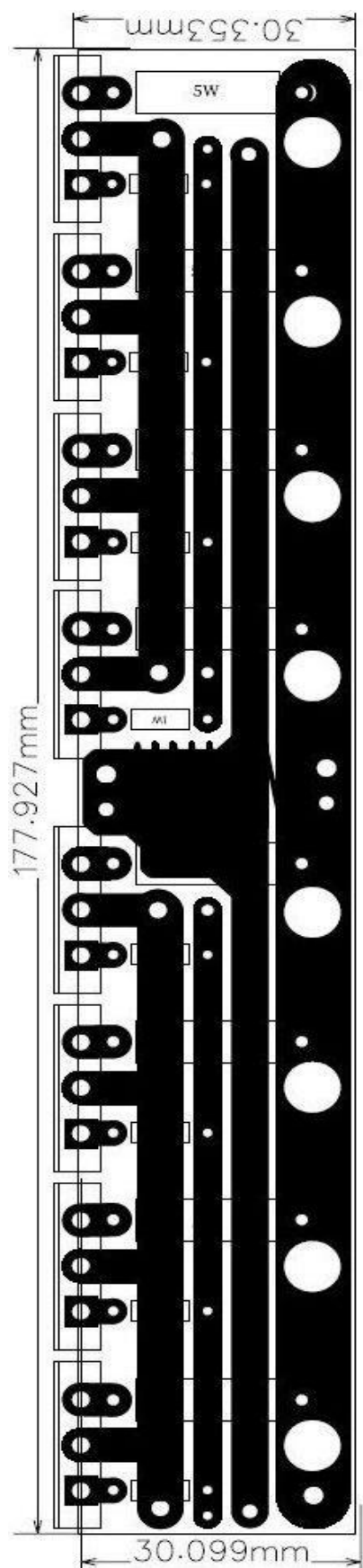


odyo ampli tr 500w 06-01

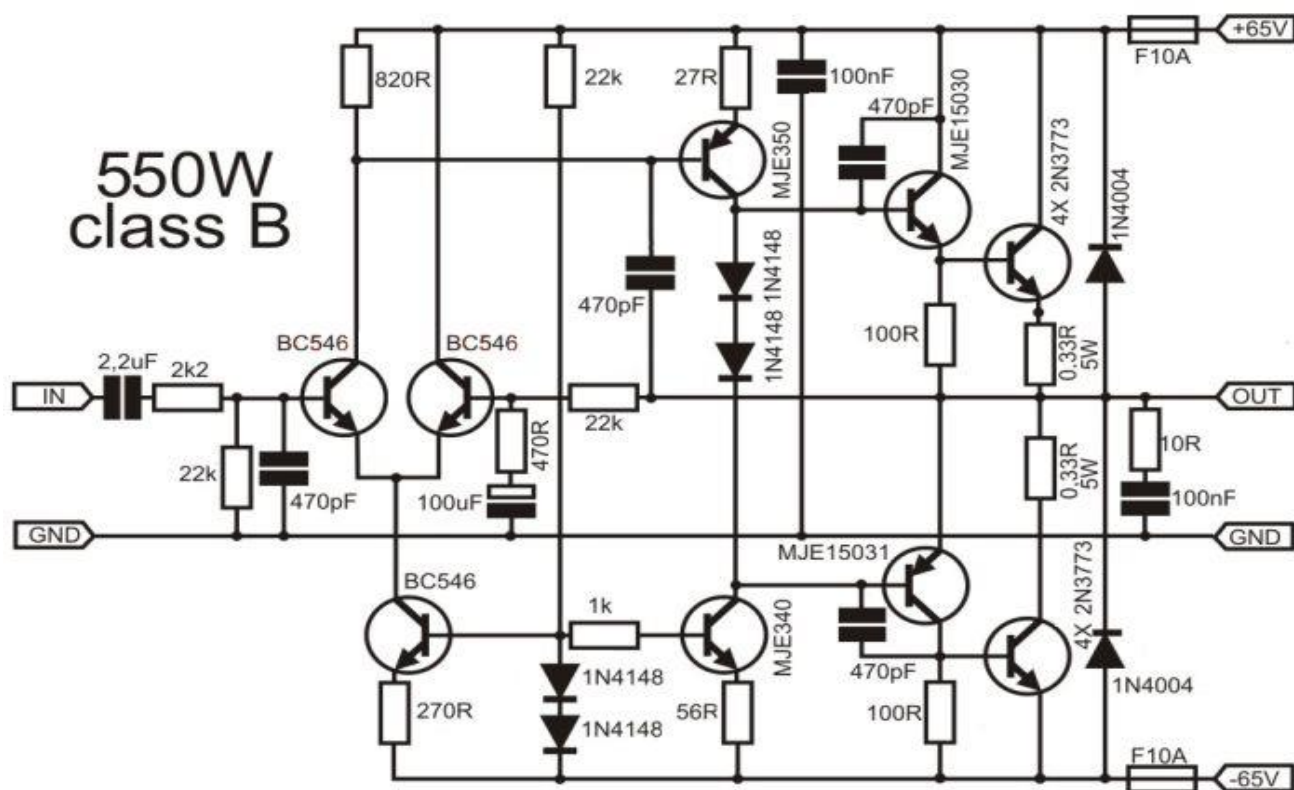






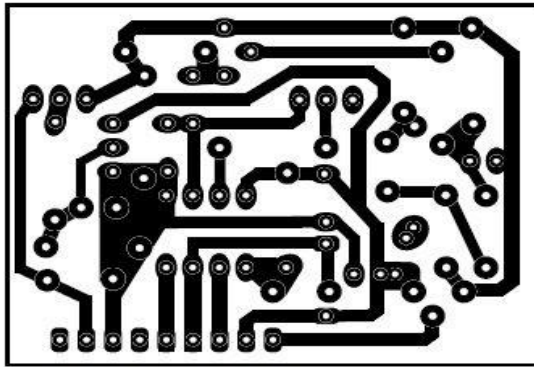


odyo ampli tr 550w 01-01

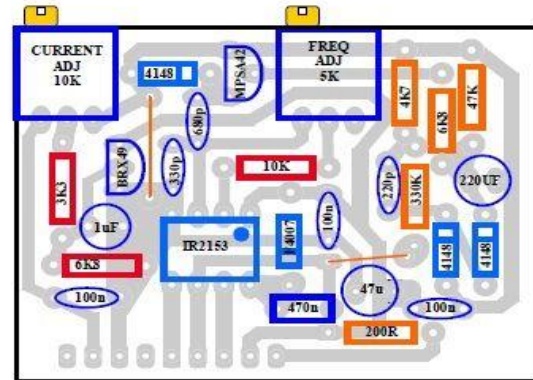


odyo ampli tr 550w 02-01





0 OC - 0 LO C HO AX+

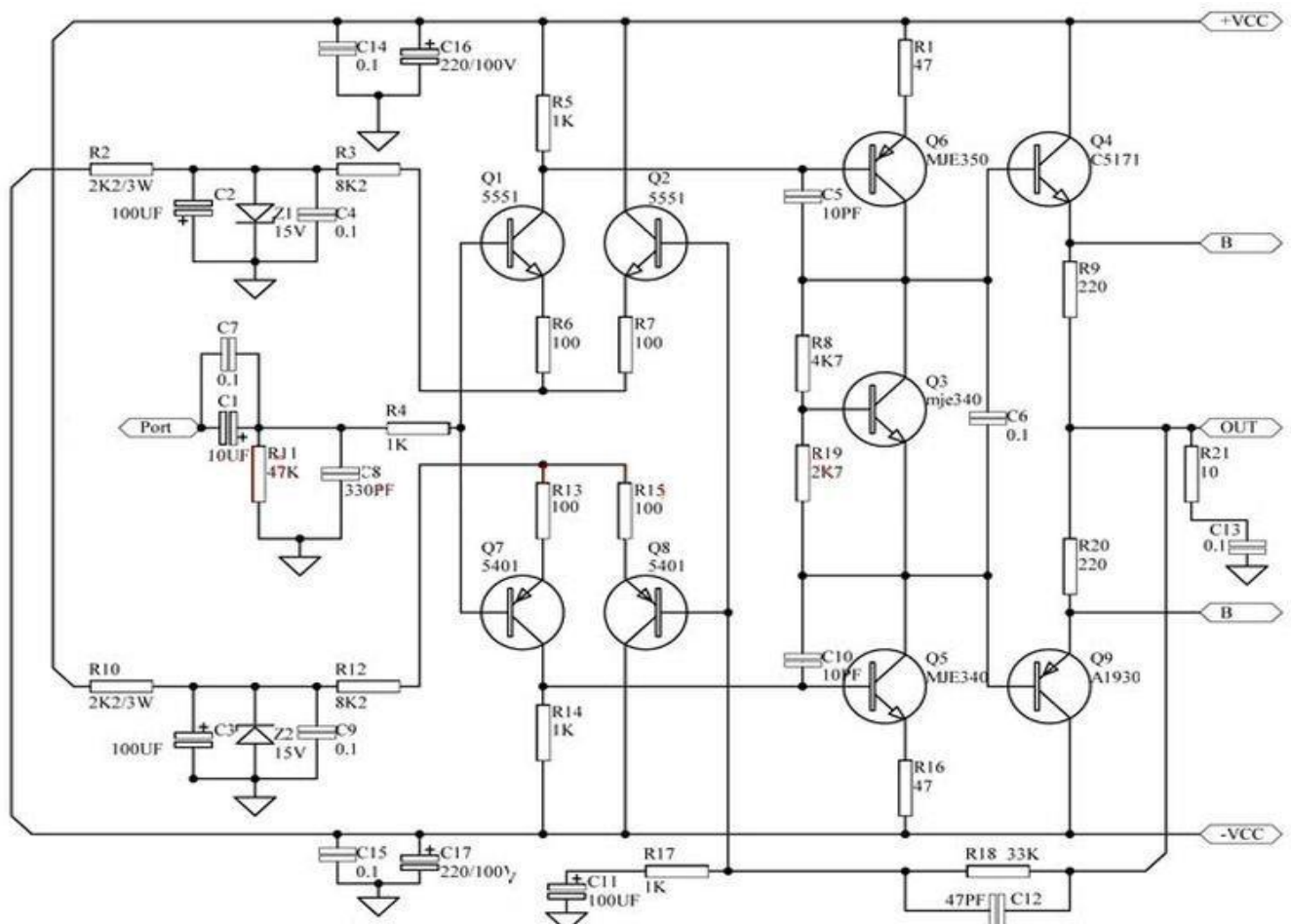


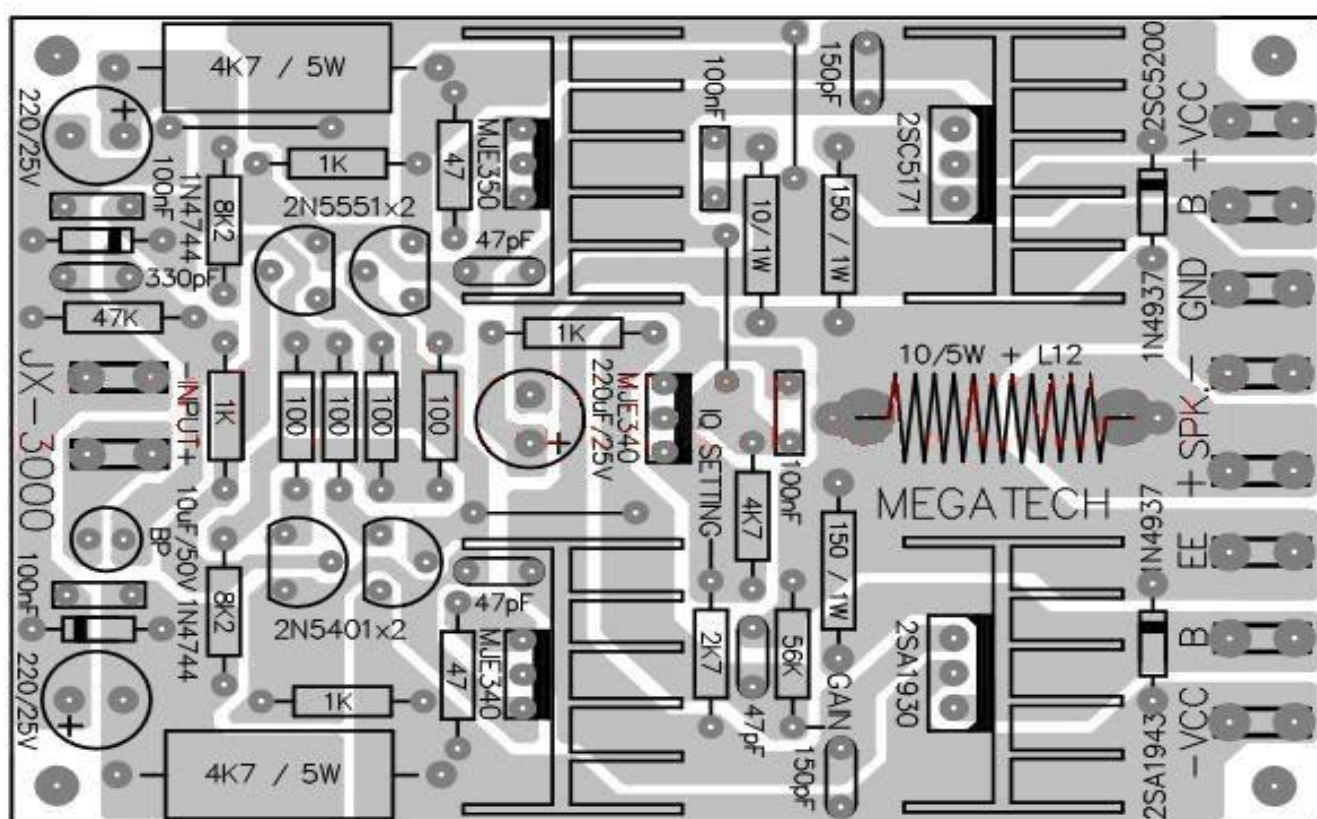
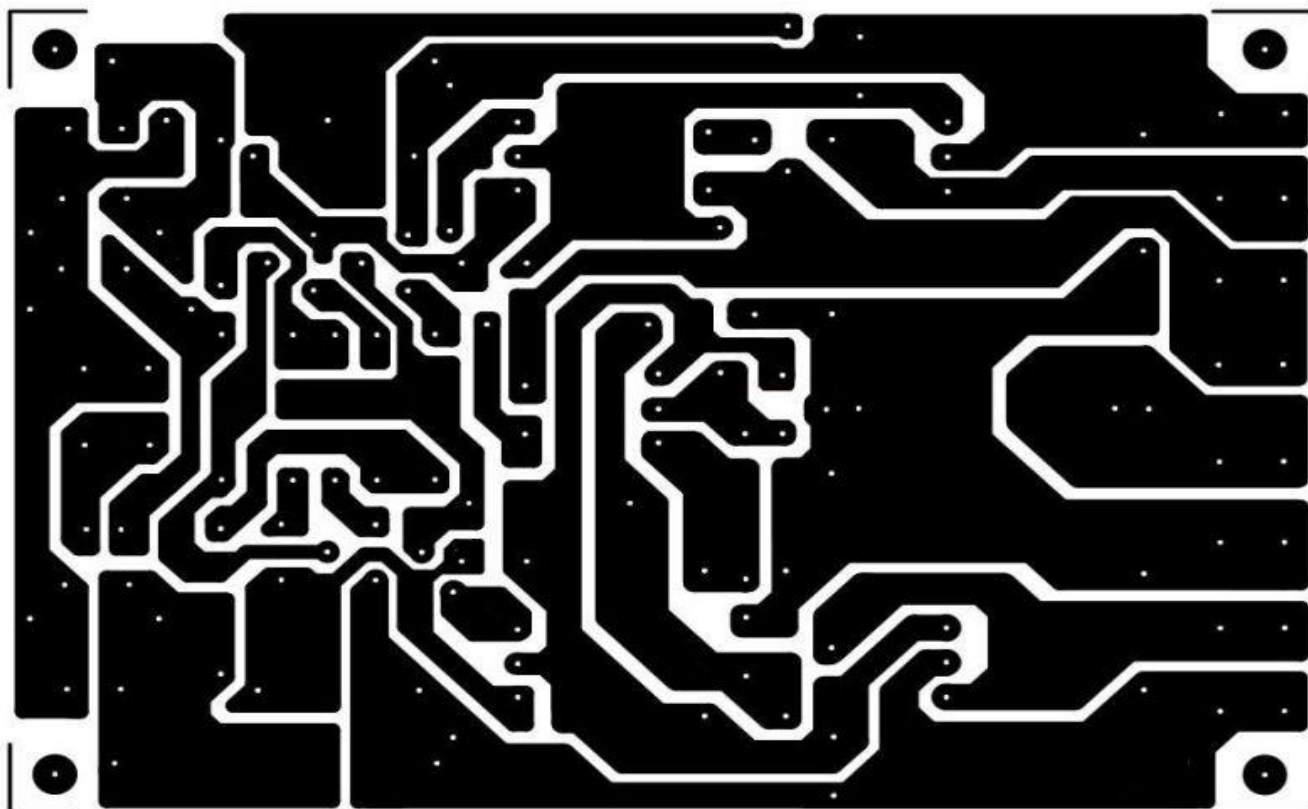
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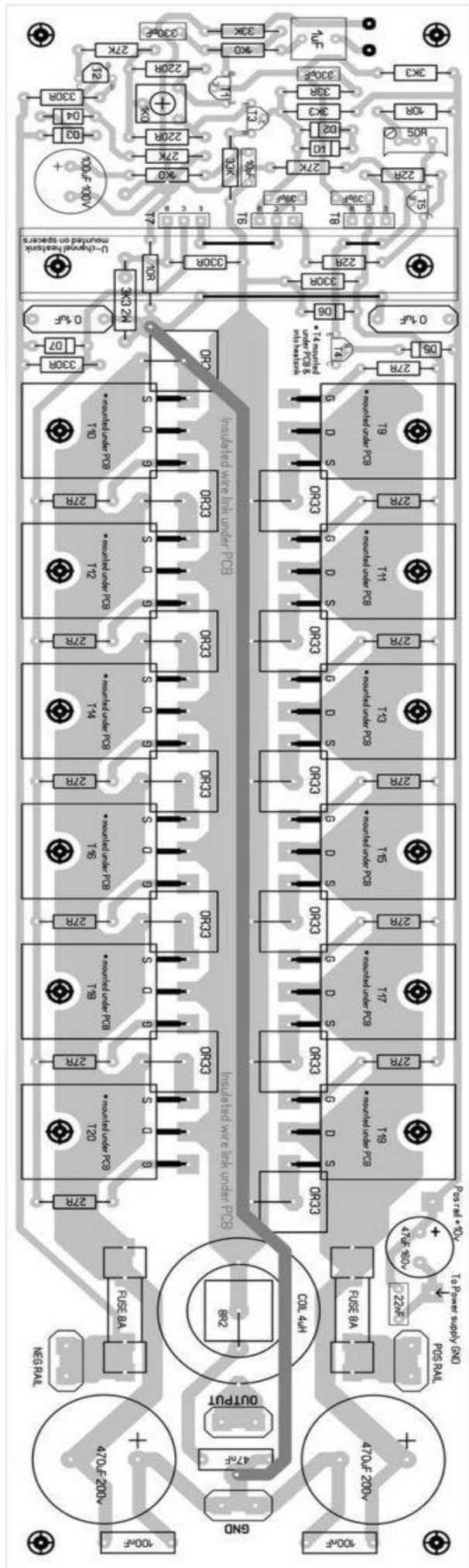
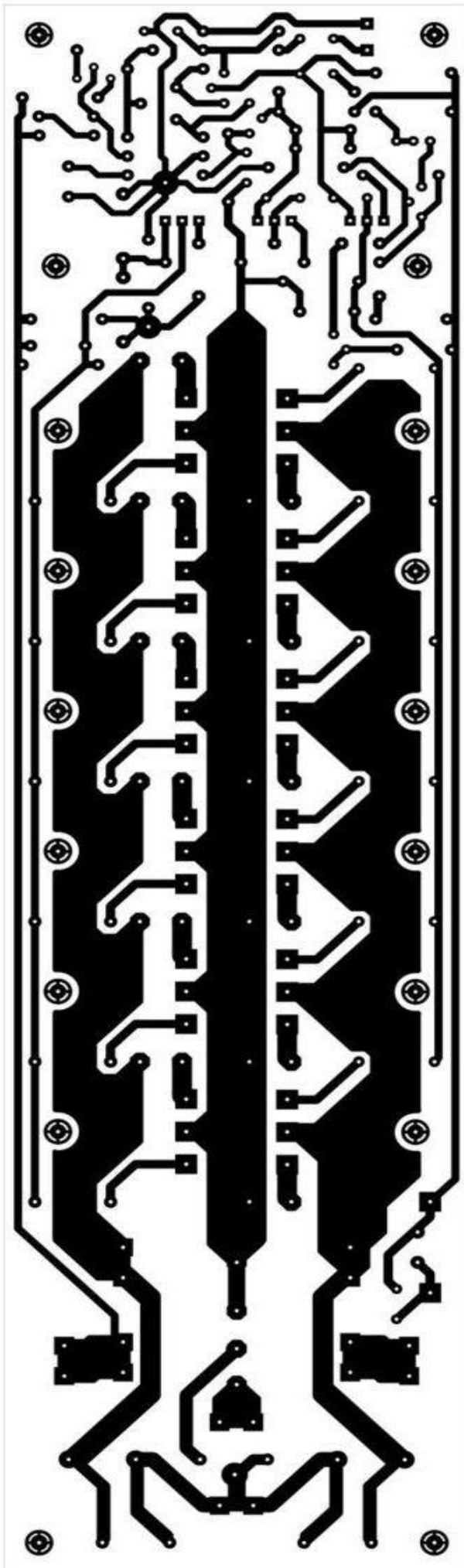
**HF SOFT START + S/C PROTECTION
WITH SCR**

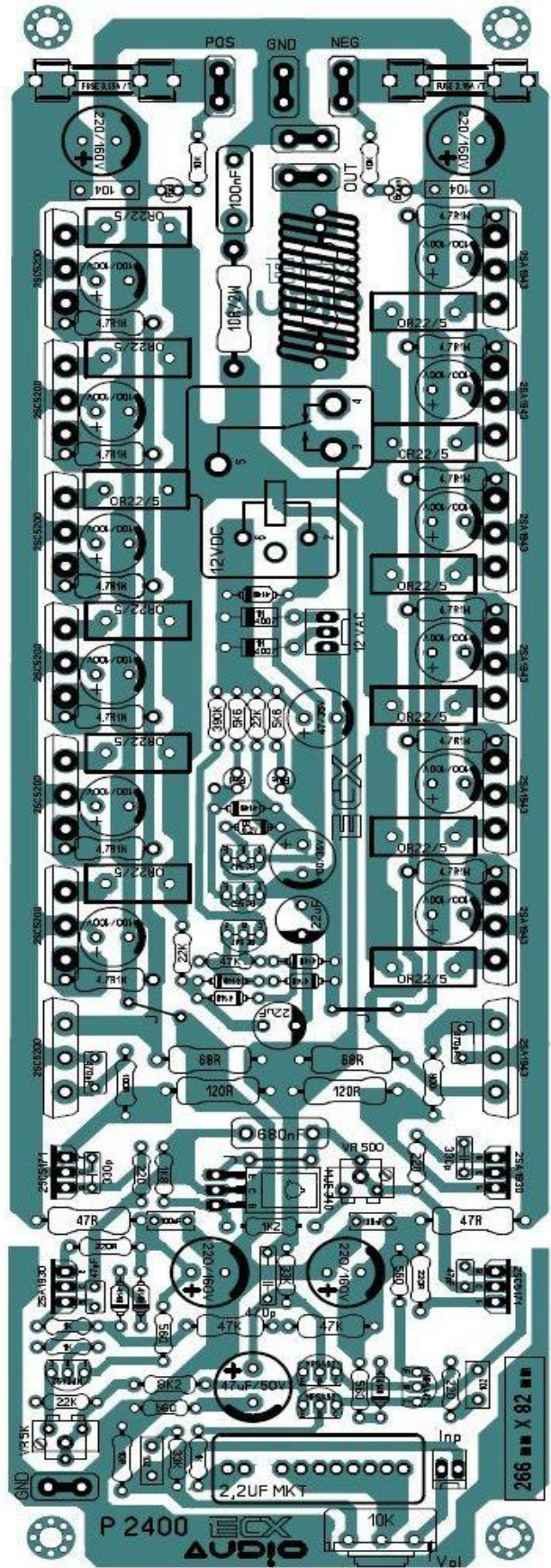
**HF SOFT START + S/C PROTECTION
WITH SCR**

odyo ampli tr 600w 01-01

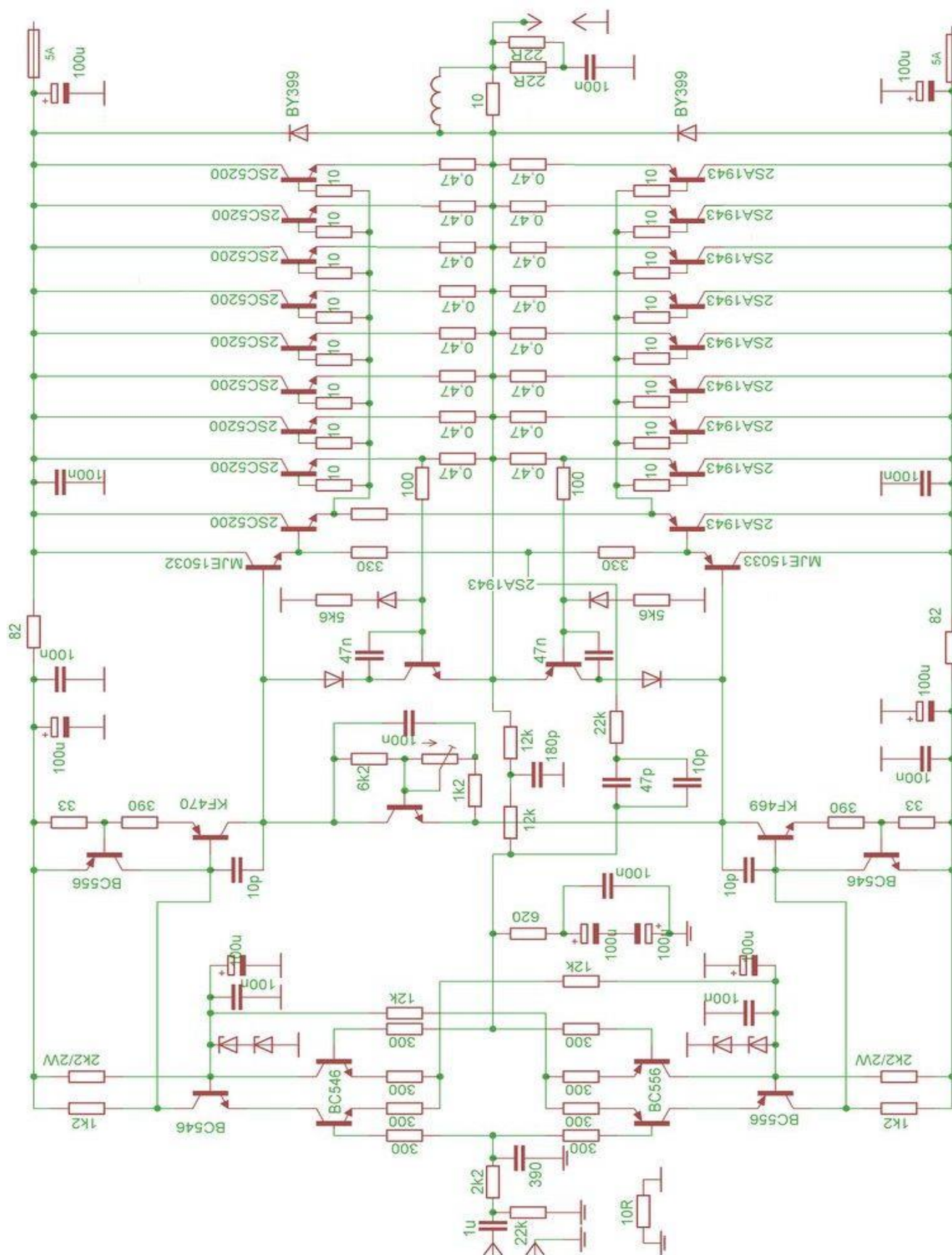


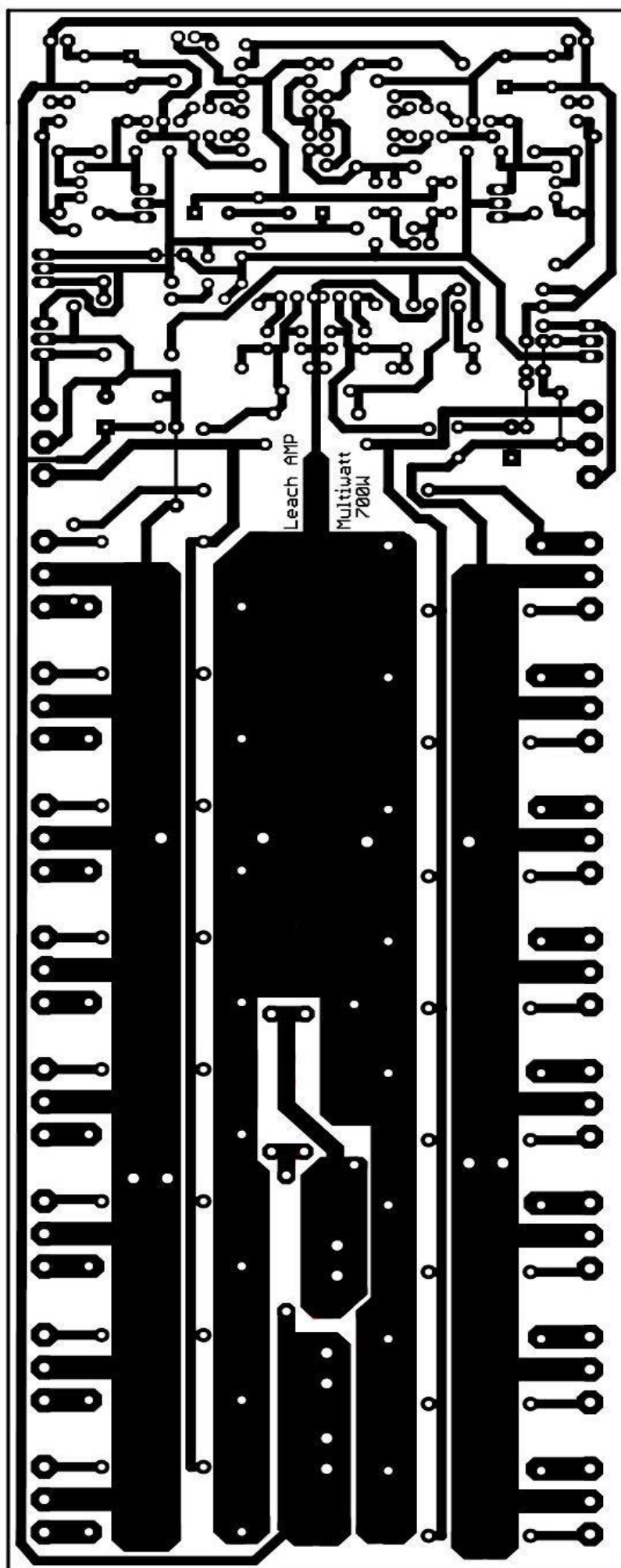


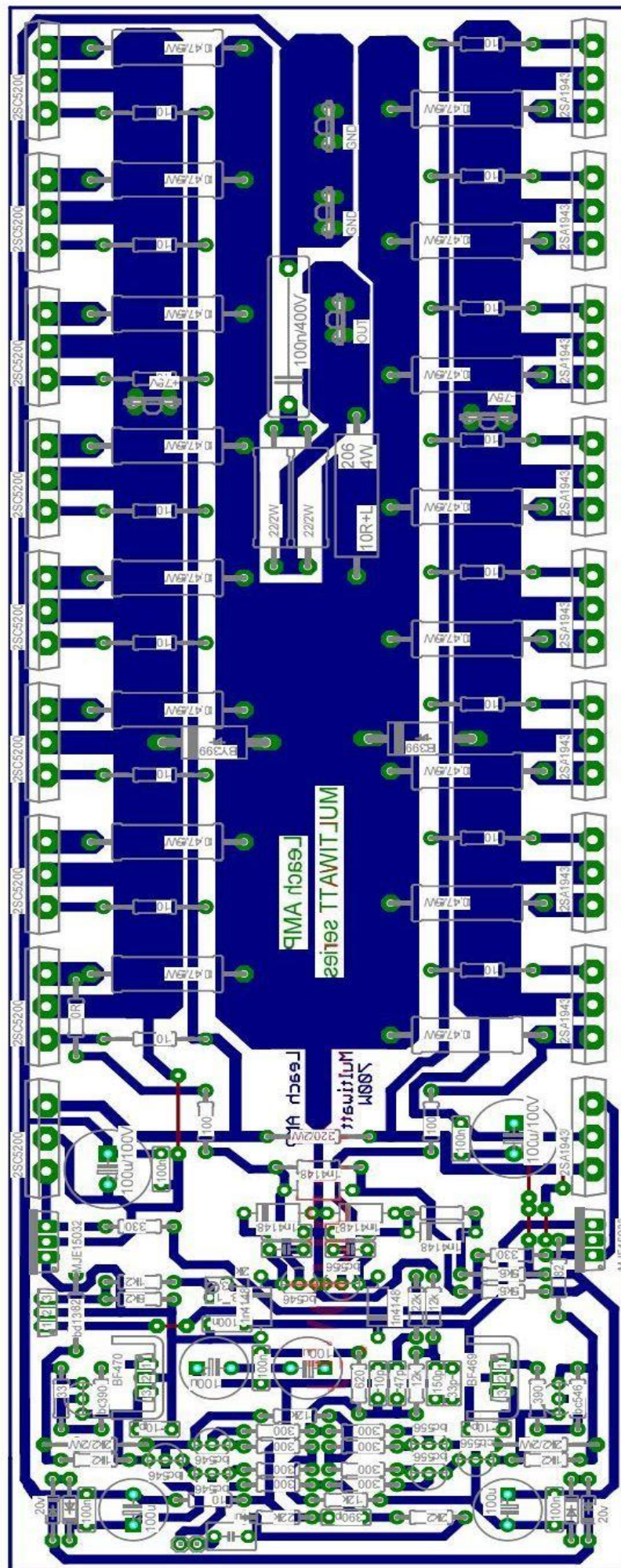


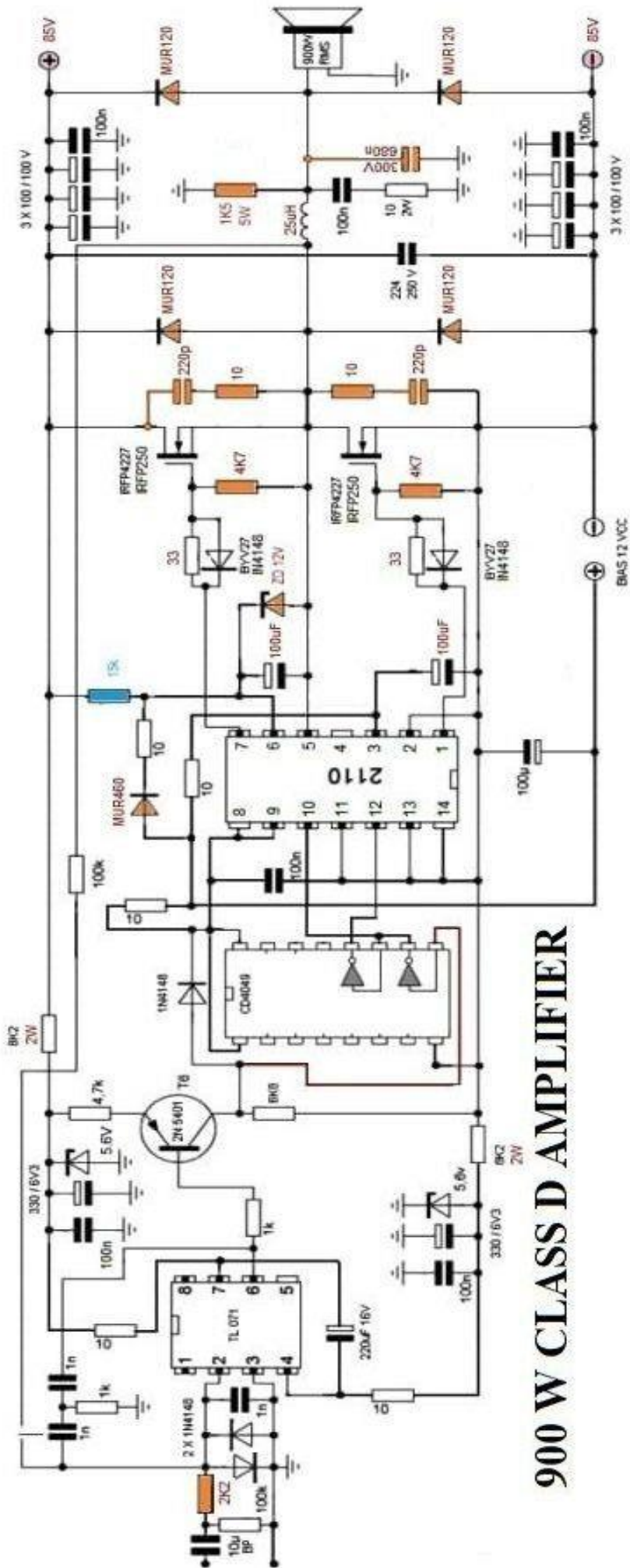


odyo ampli tr 700w 02-01

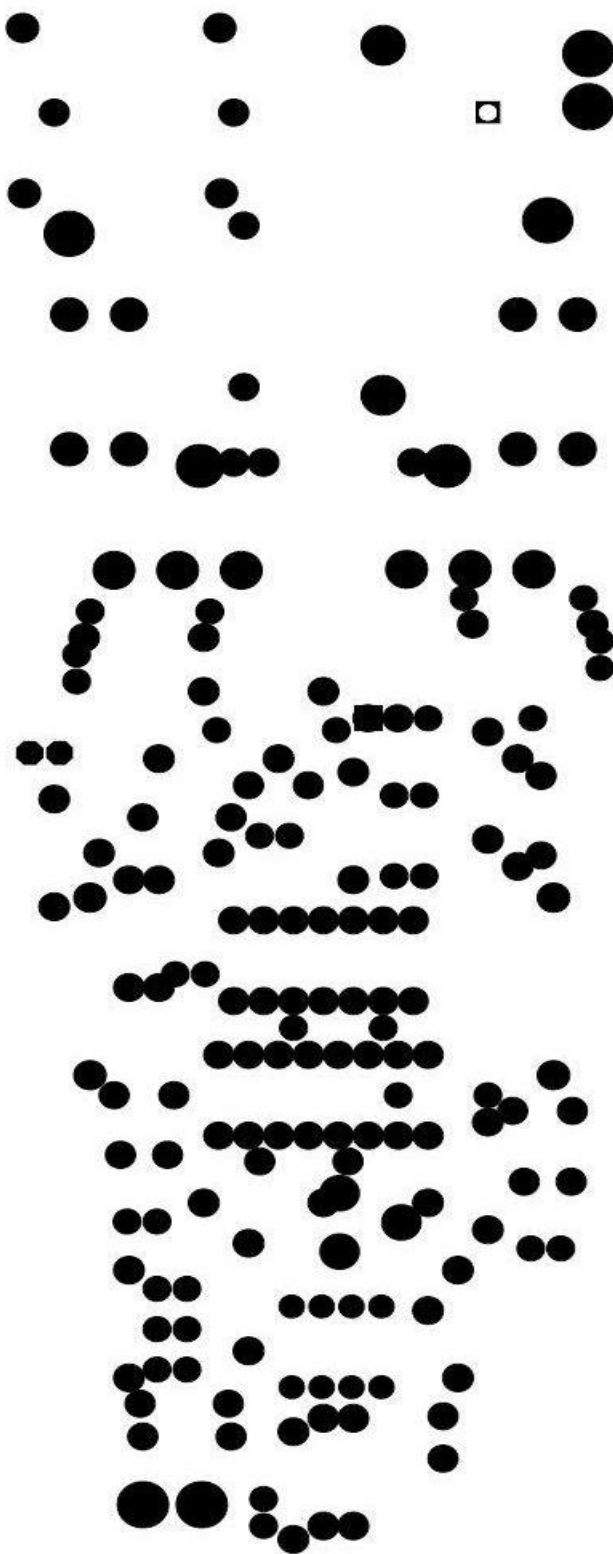
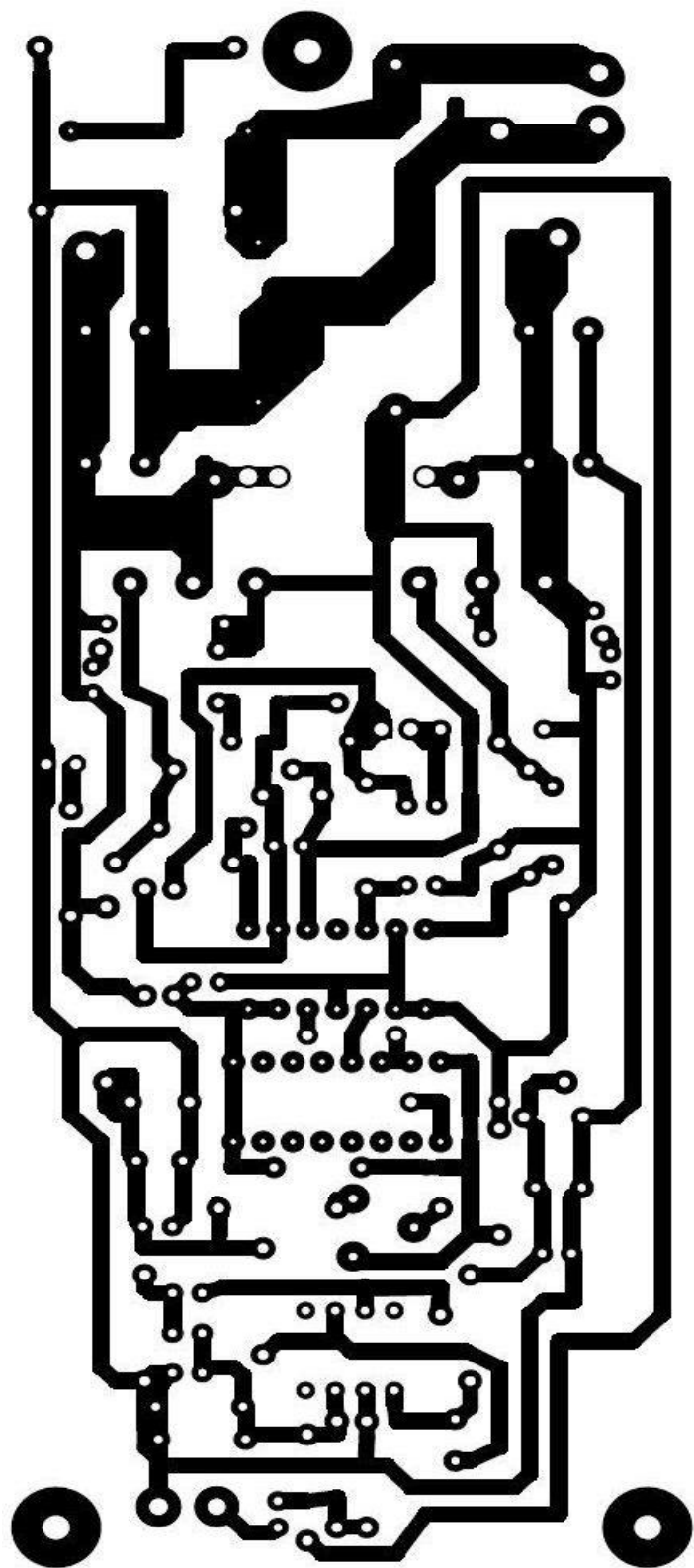


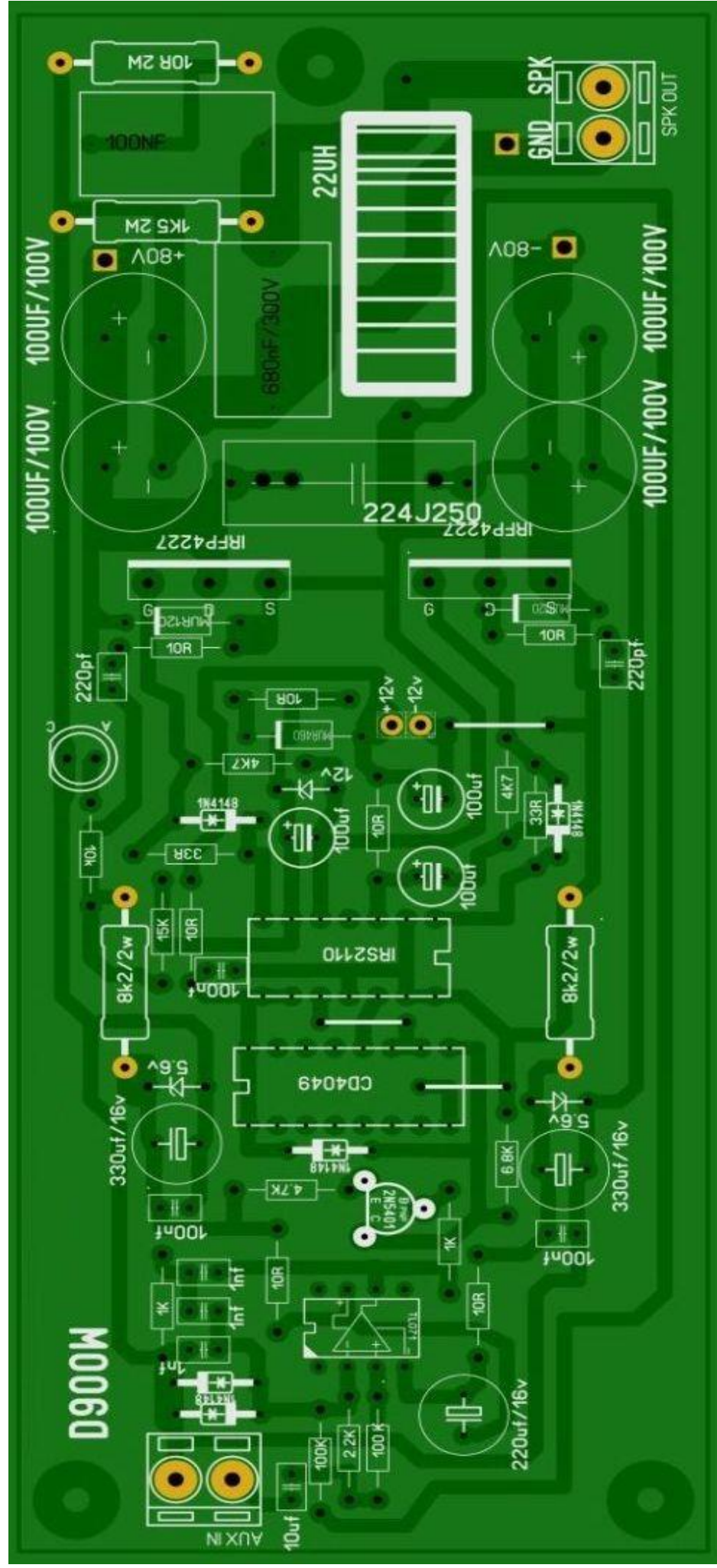




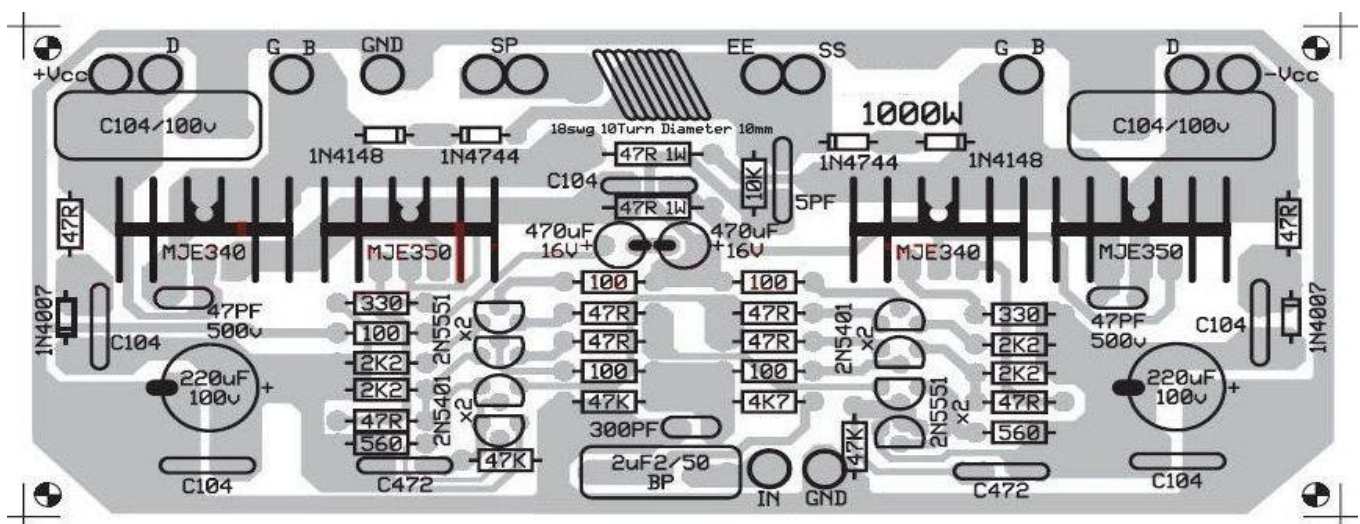
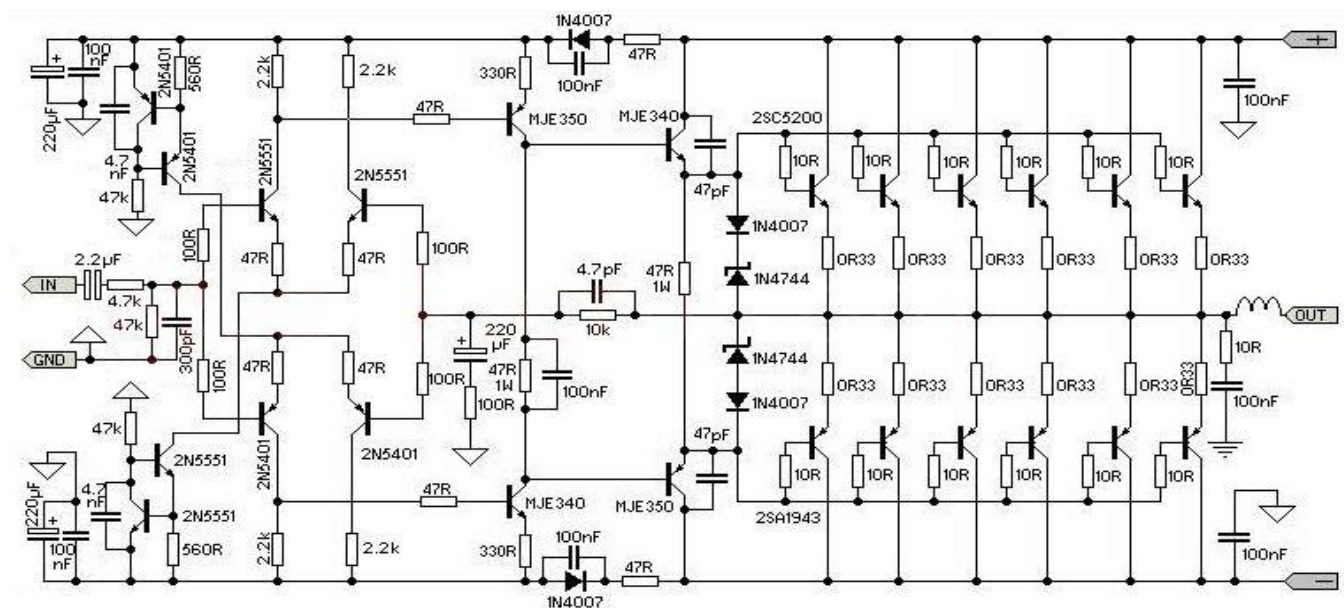
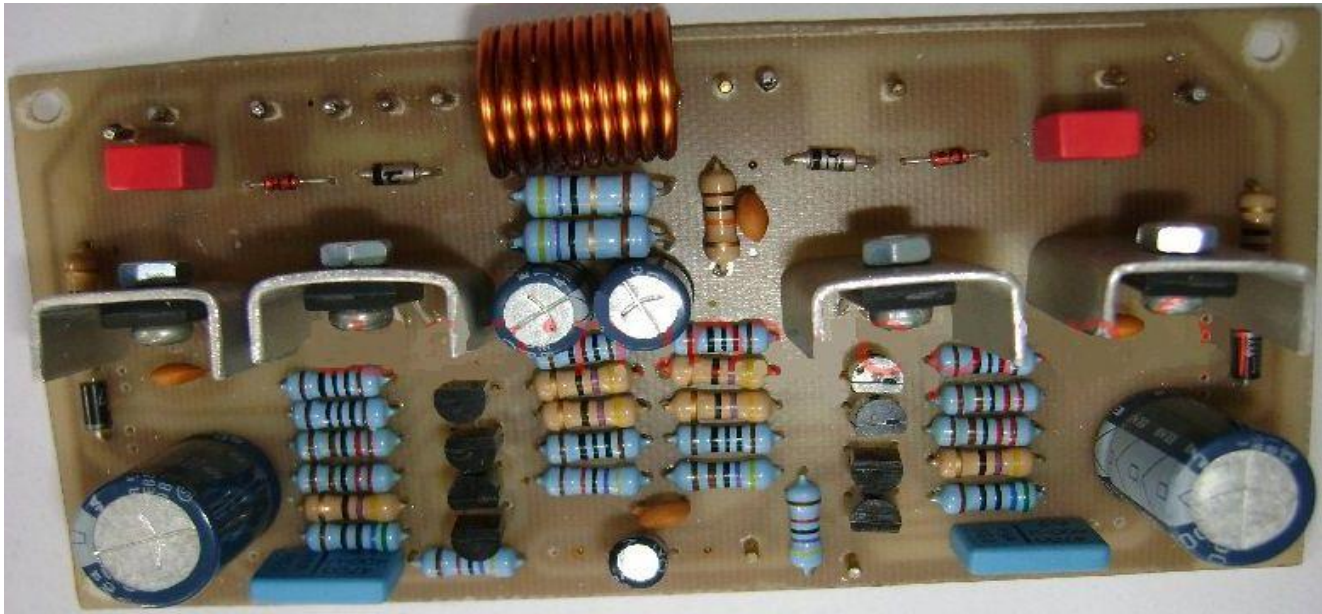


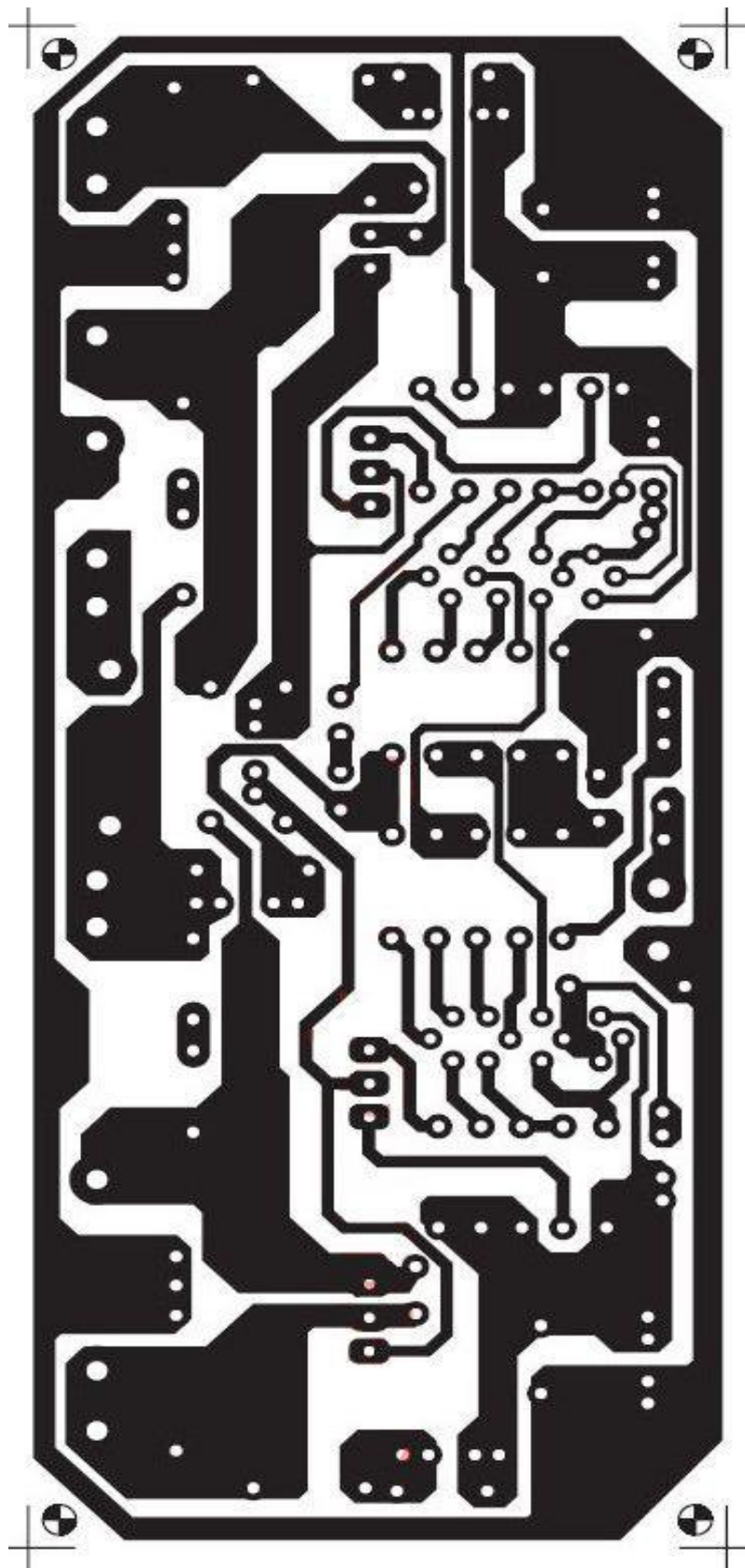
900 W CLASS D AMPLIFIER

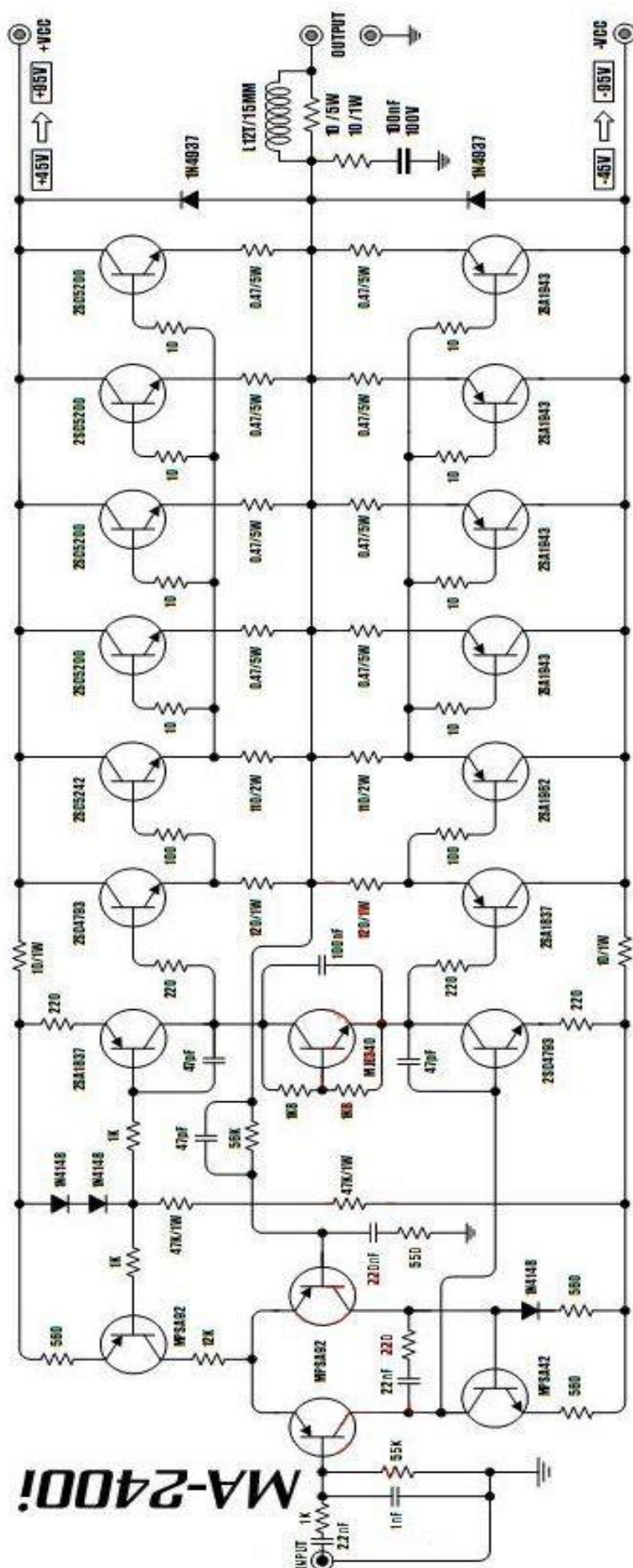


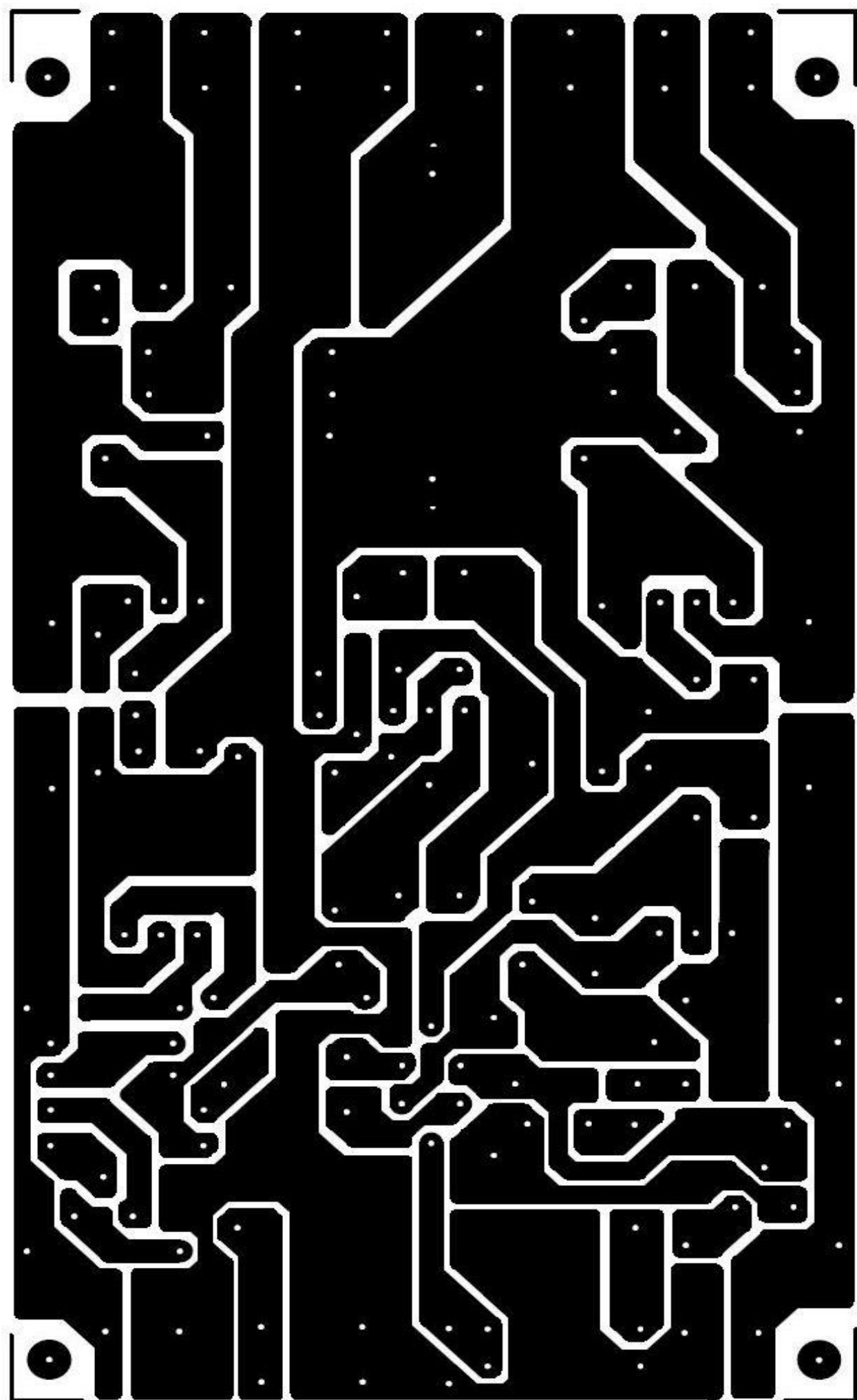


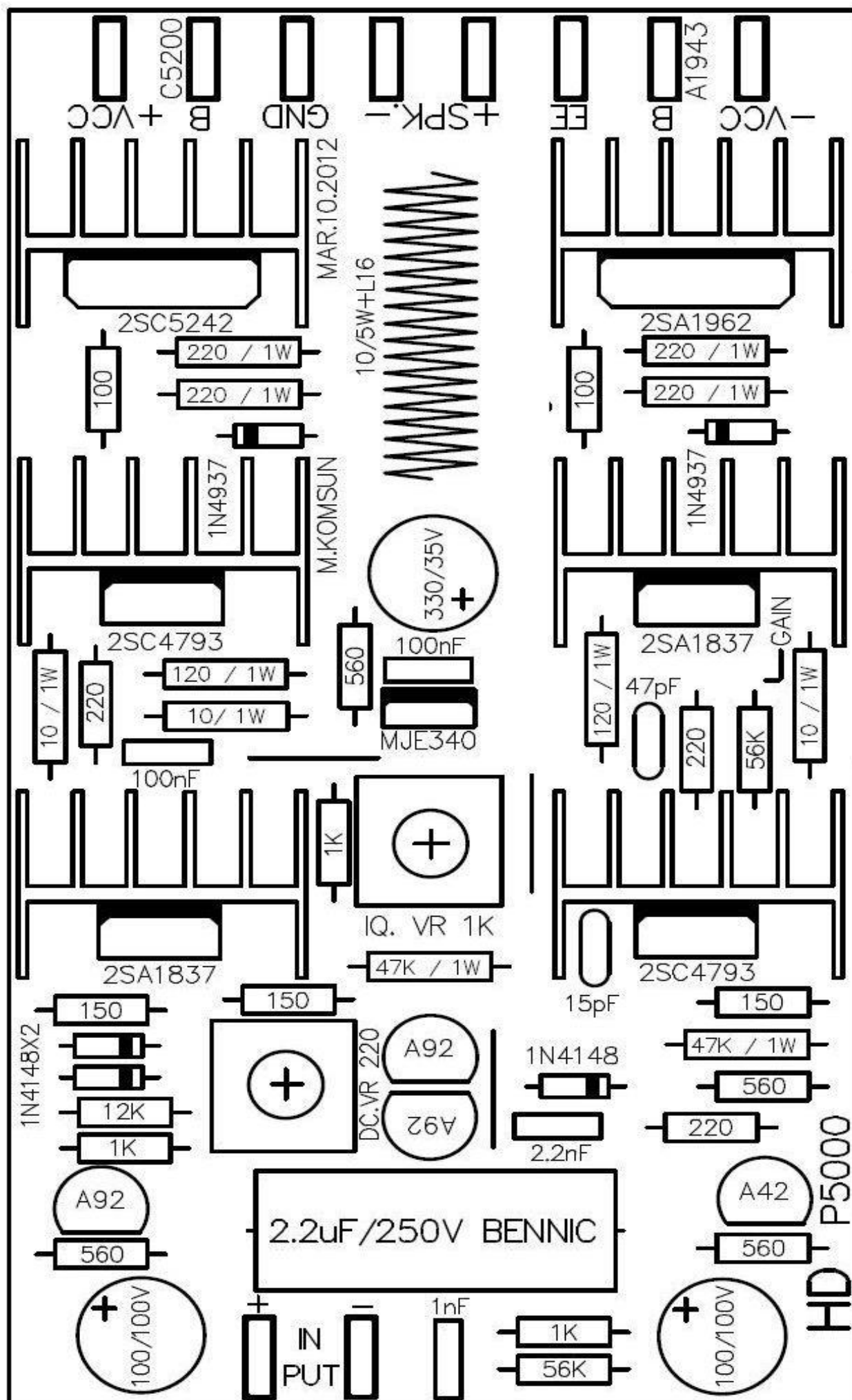
odyo ampli tr 1000w 01-01



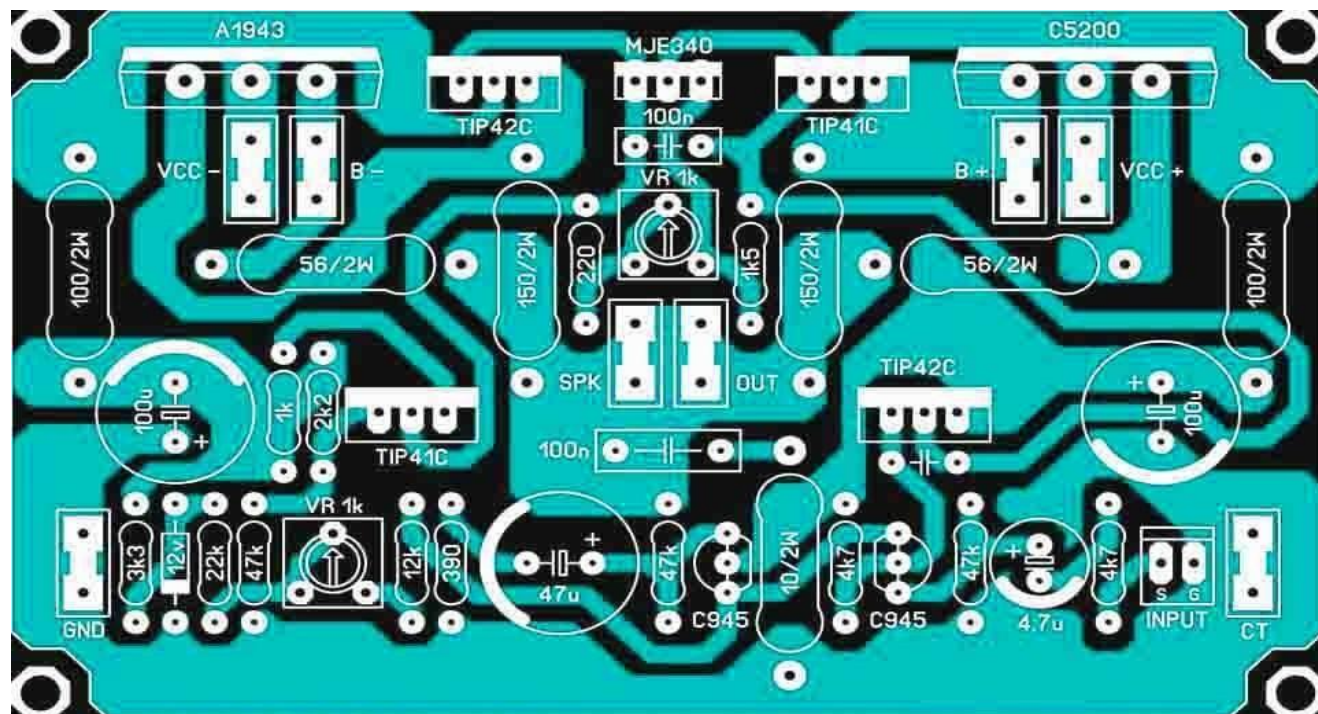
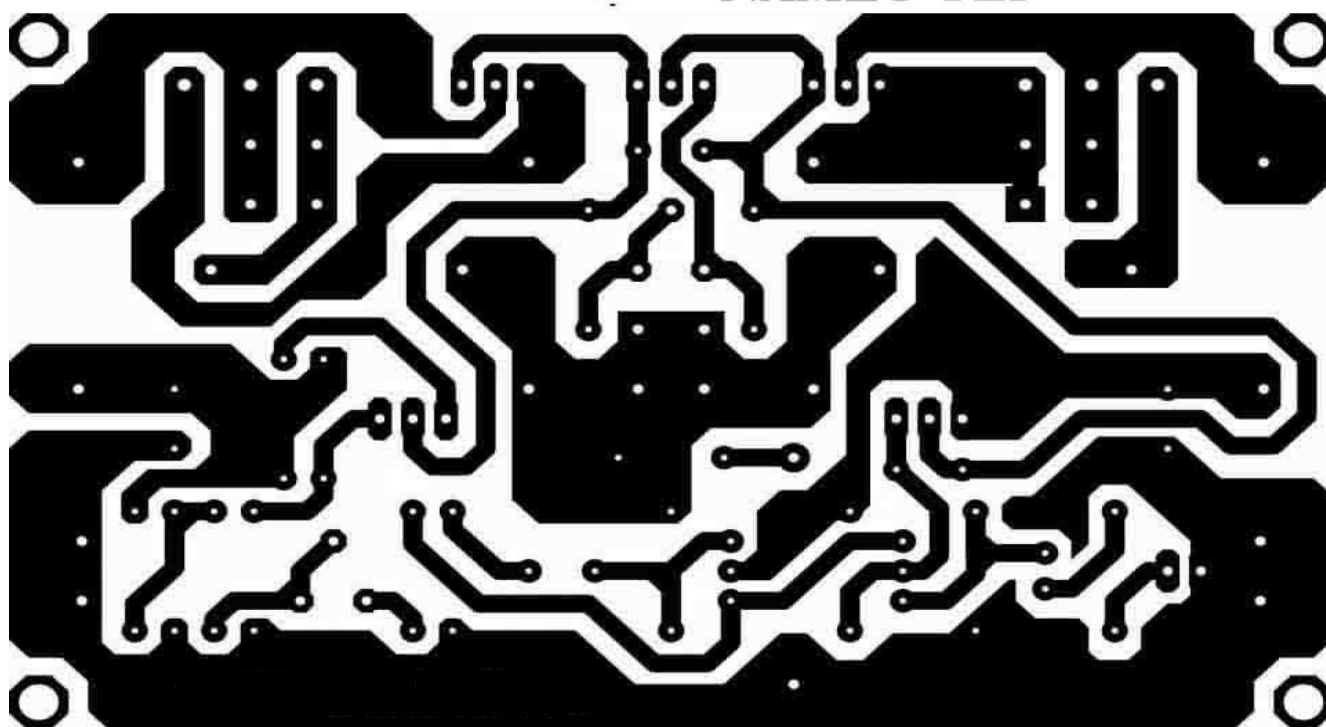




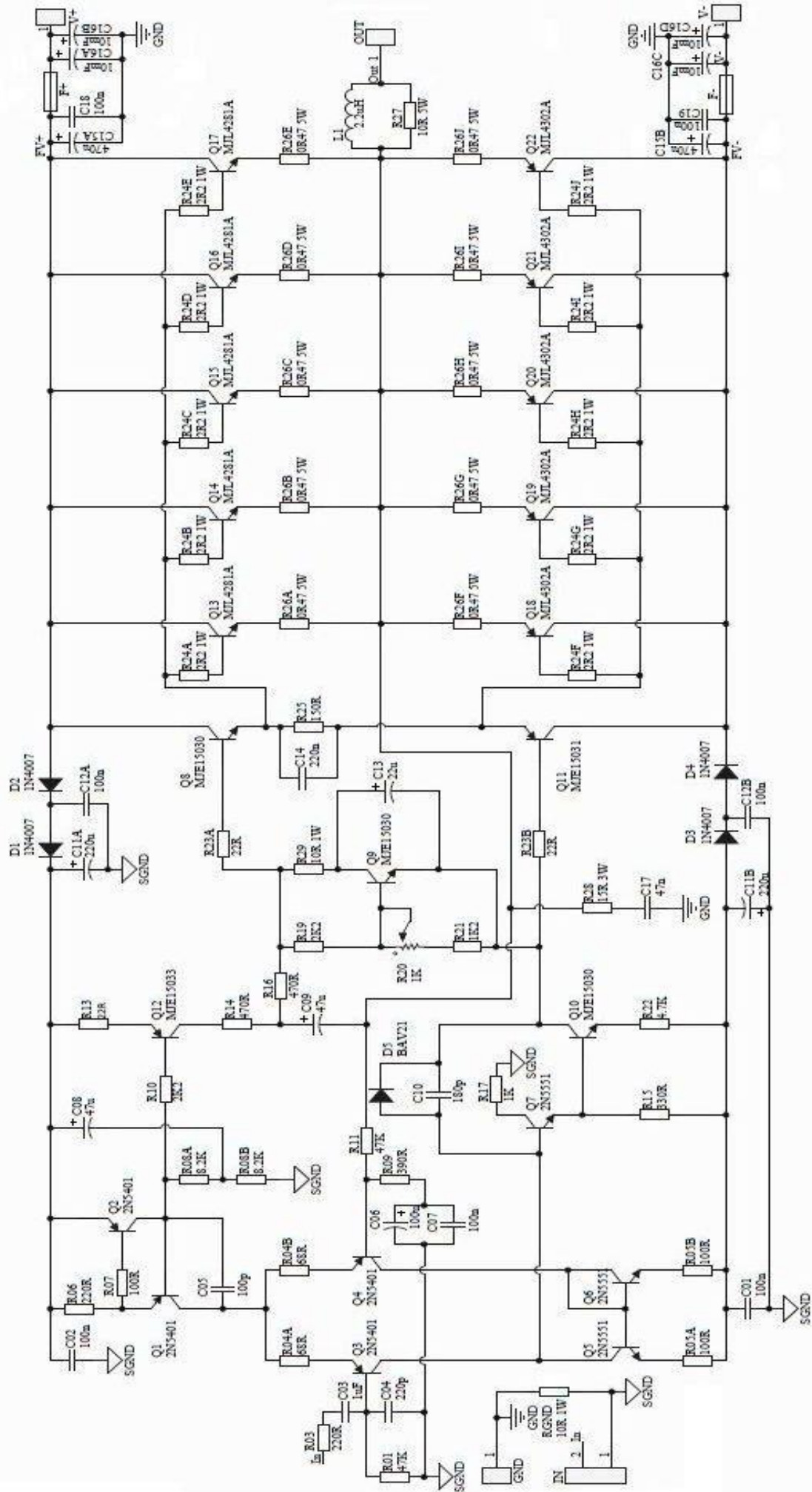


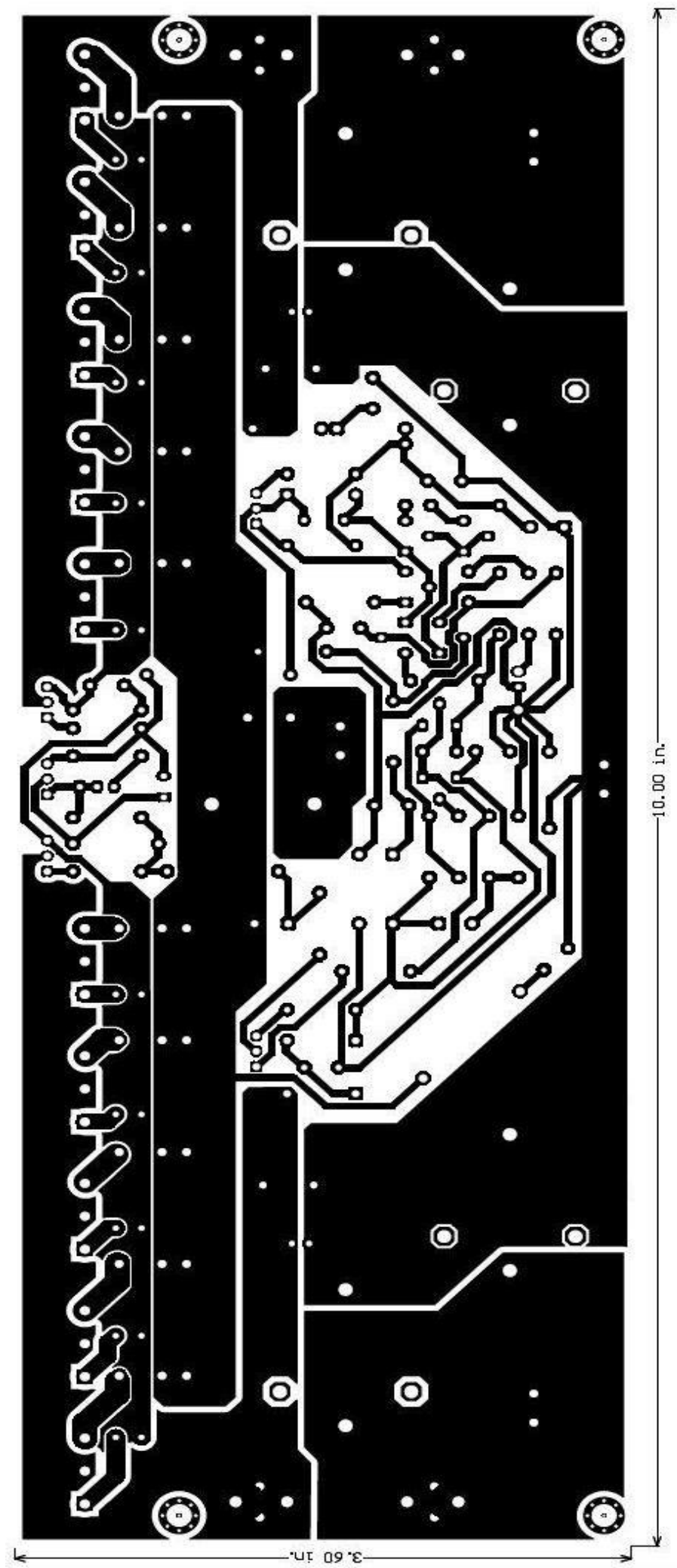


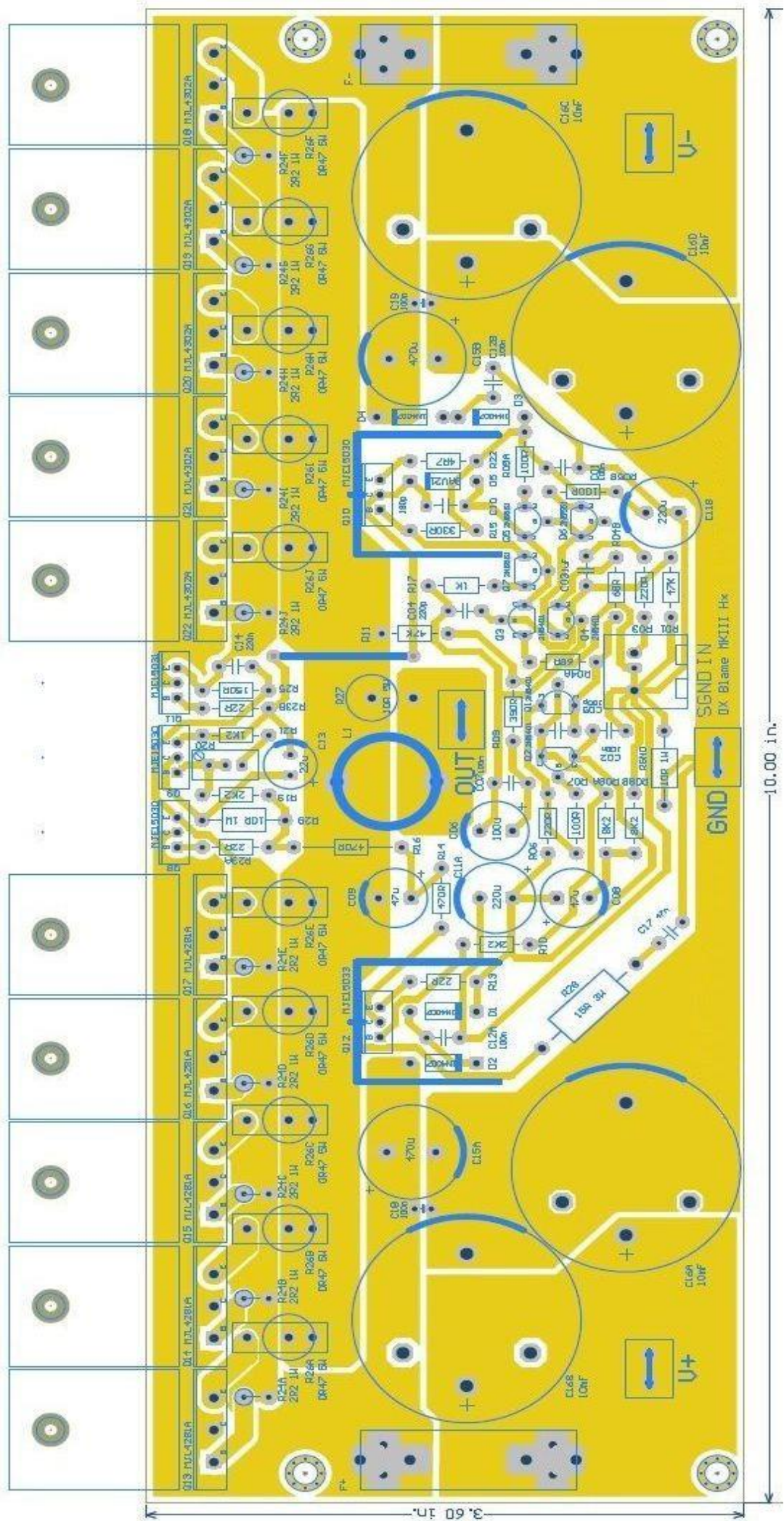
DRIVER POWER AMPLIFIER

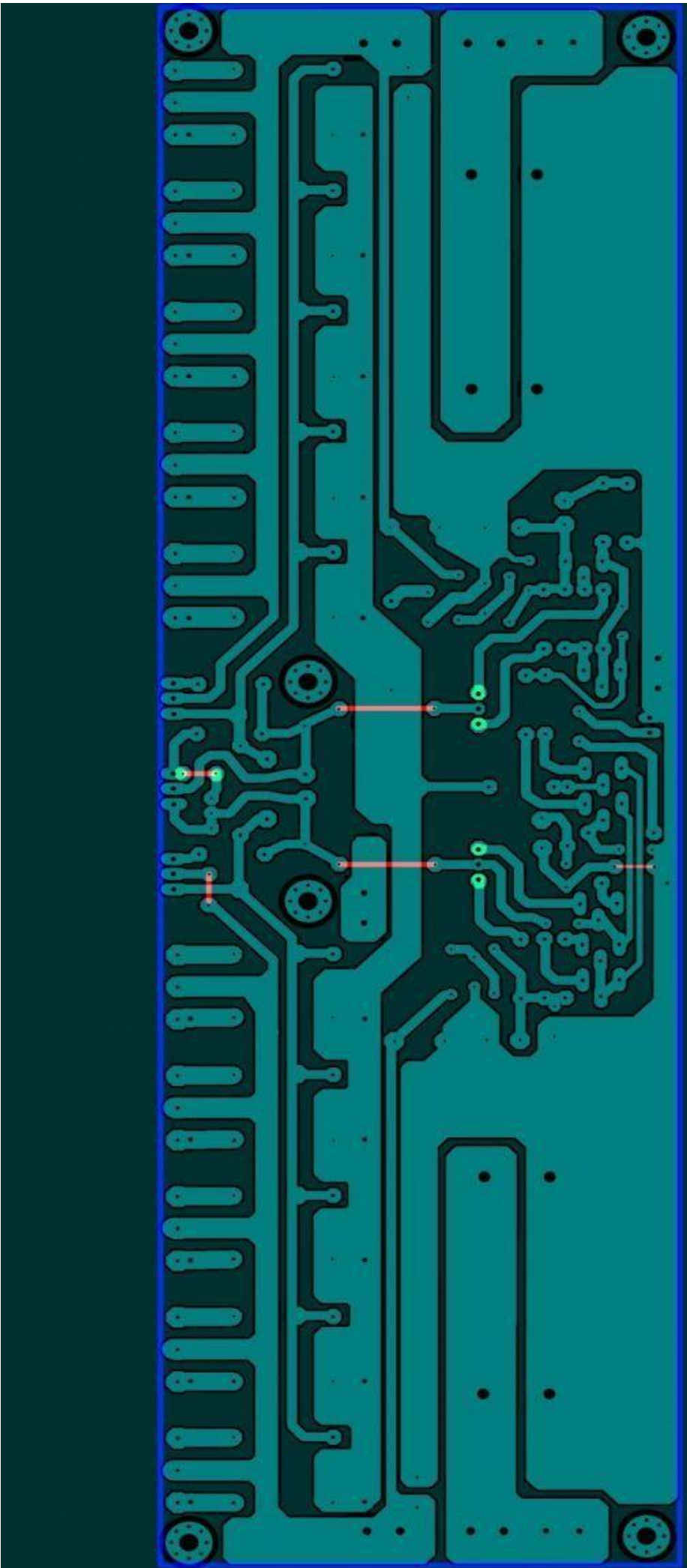


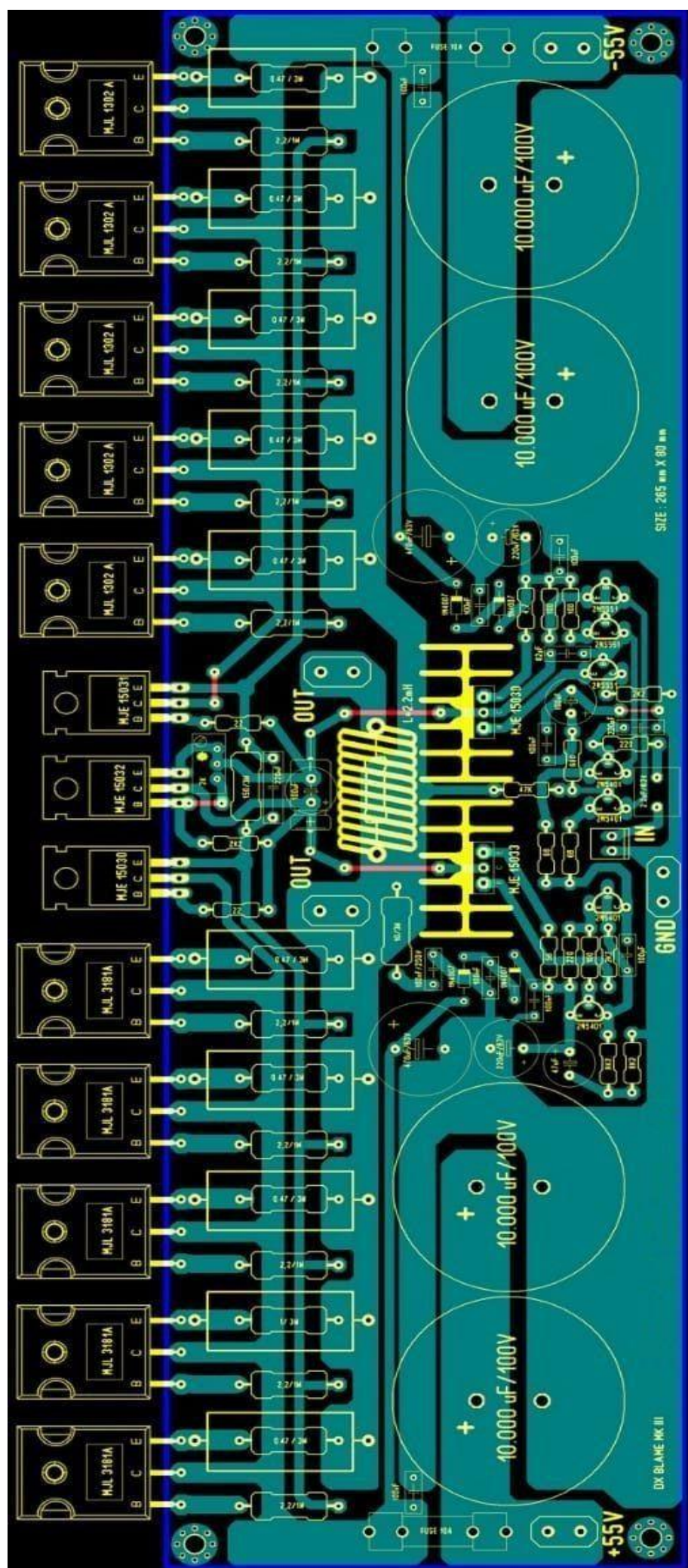
odyo ampli tr 1000w 04-01

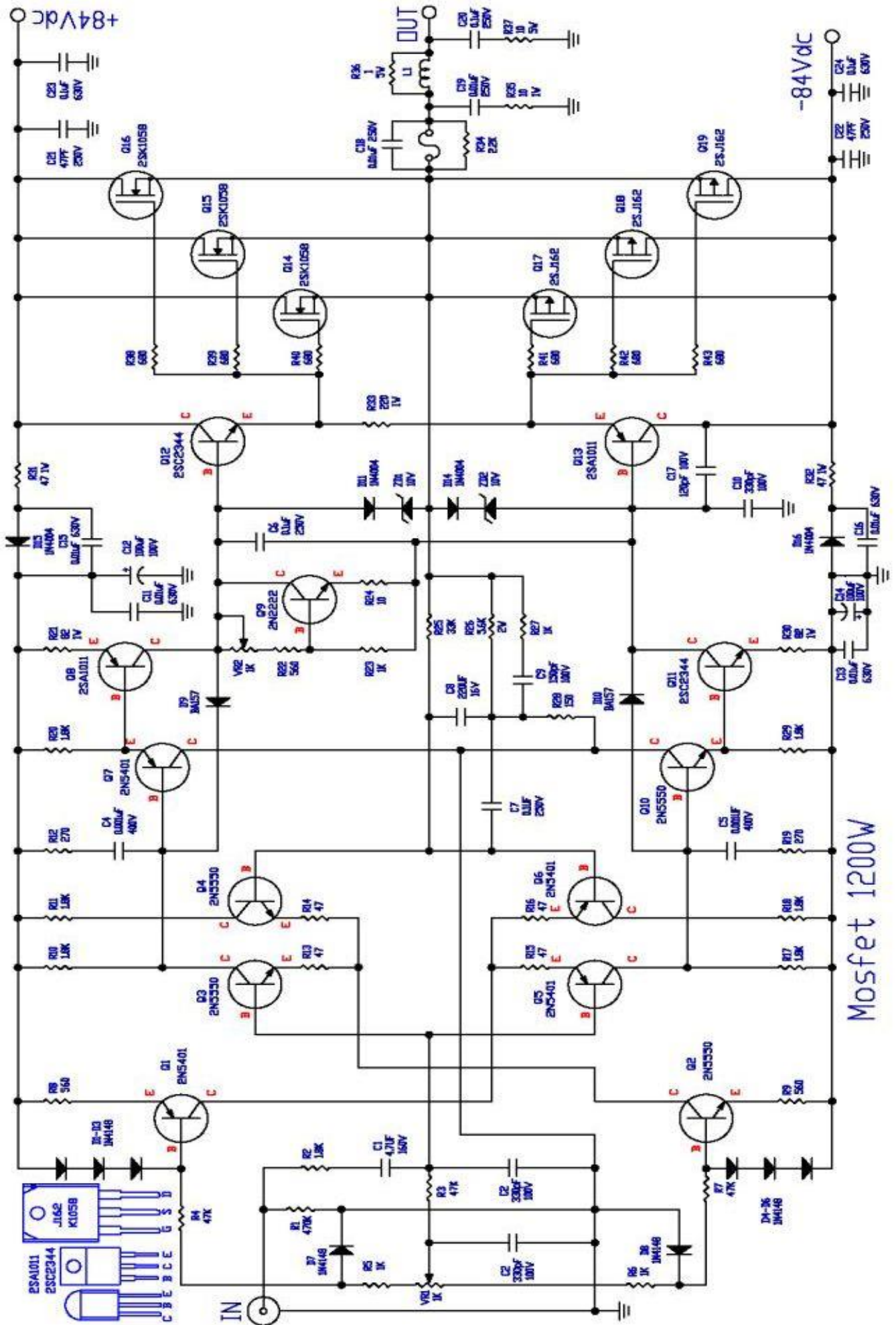


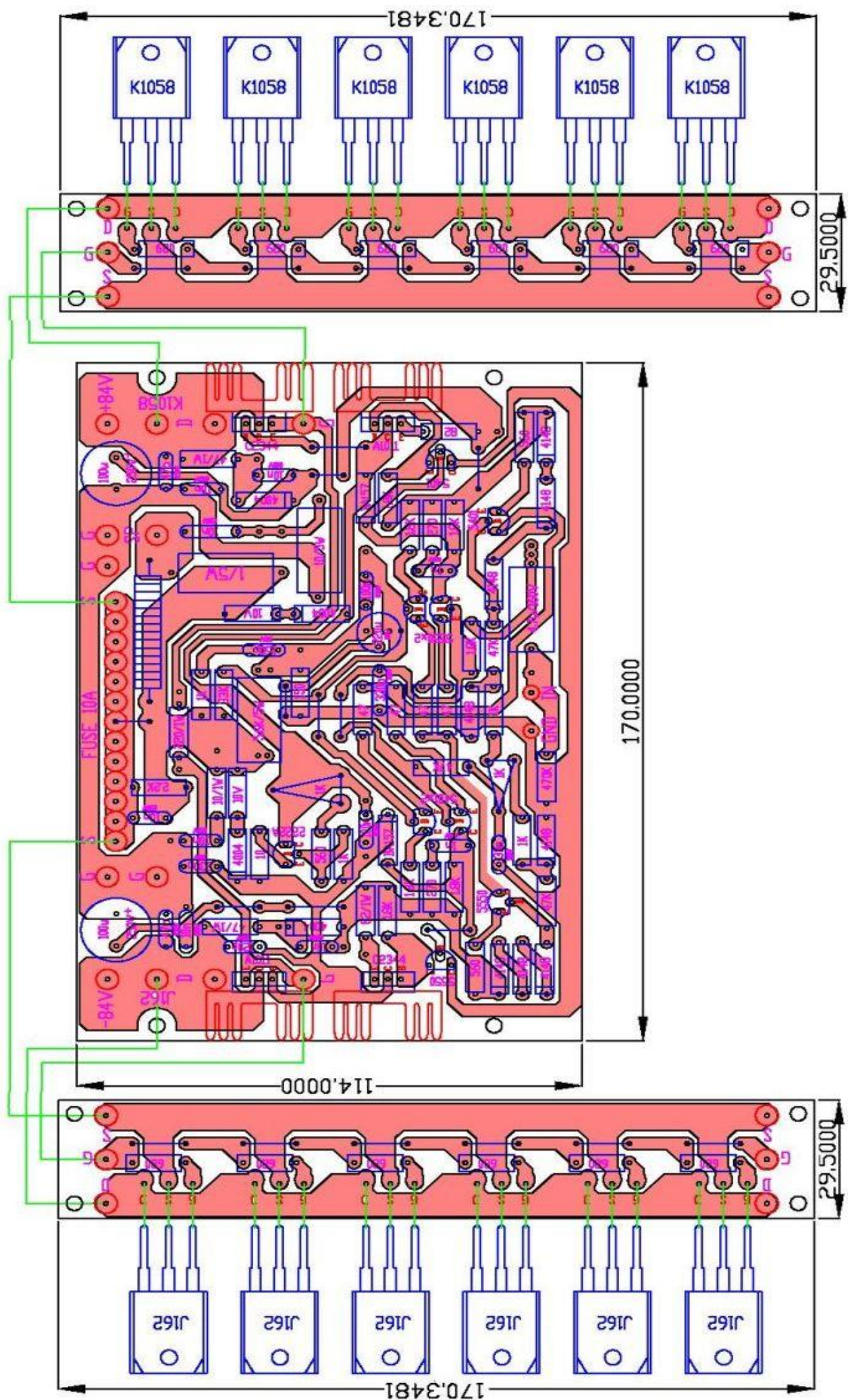


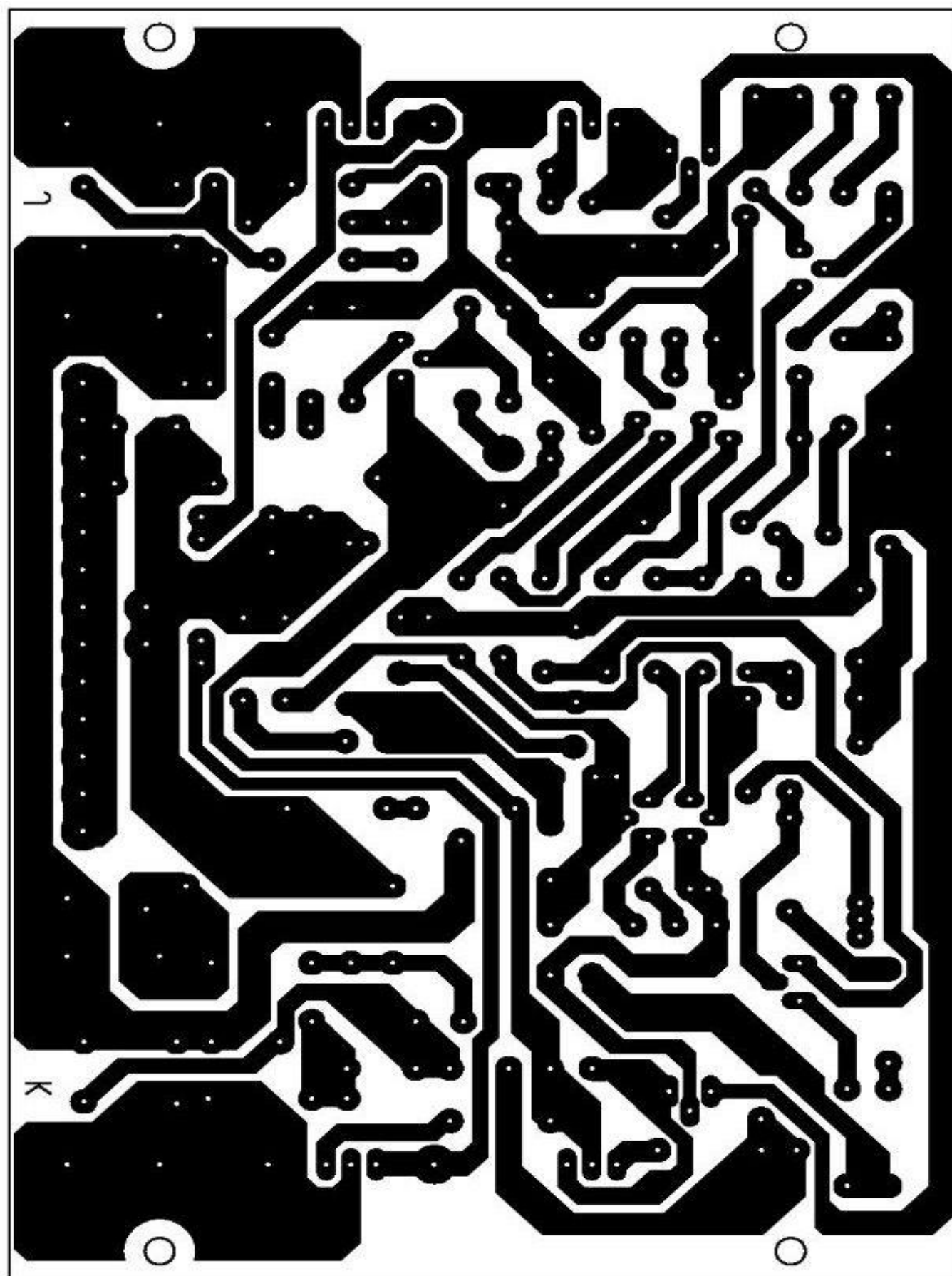


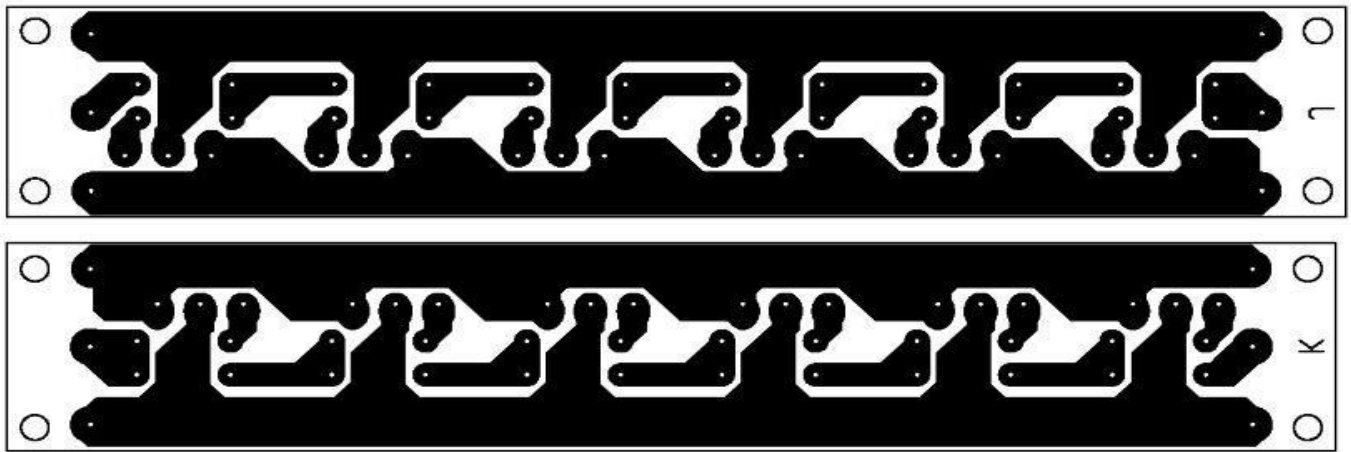




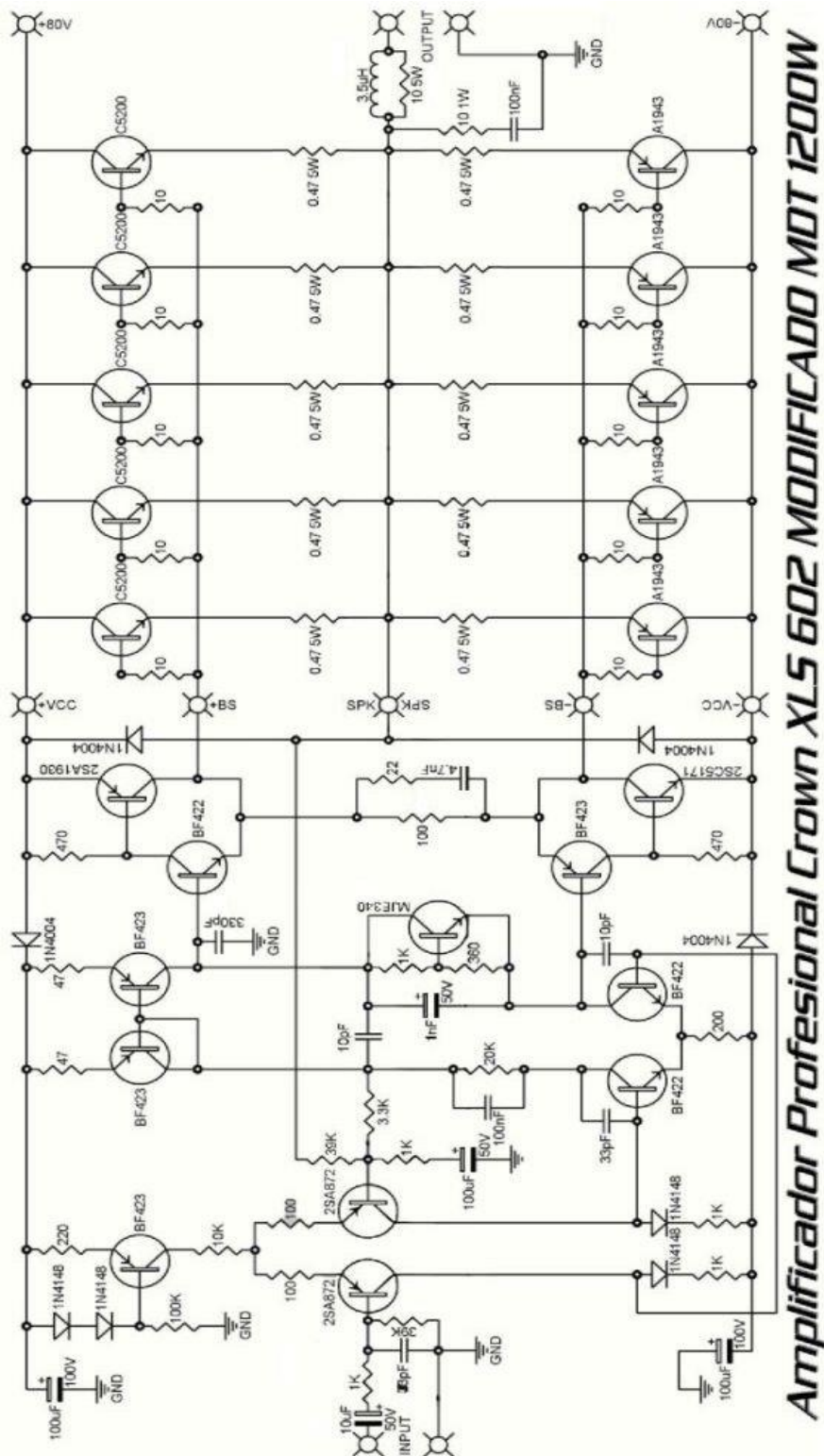


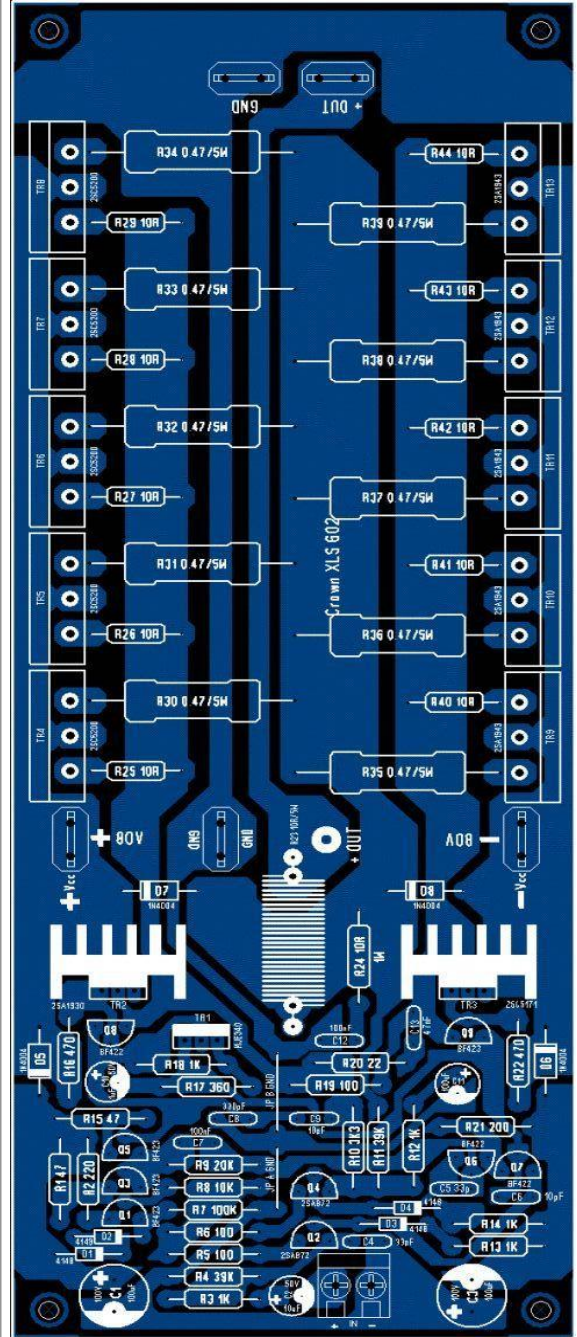
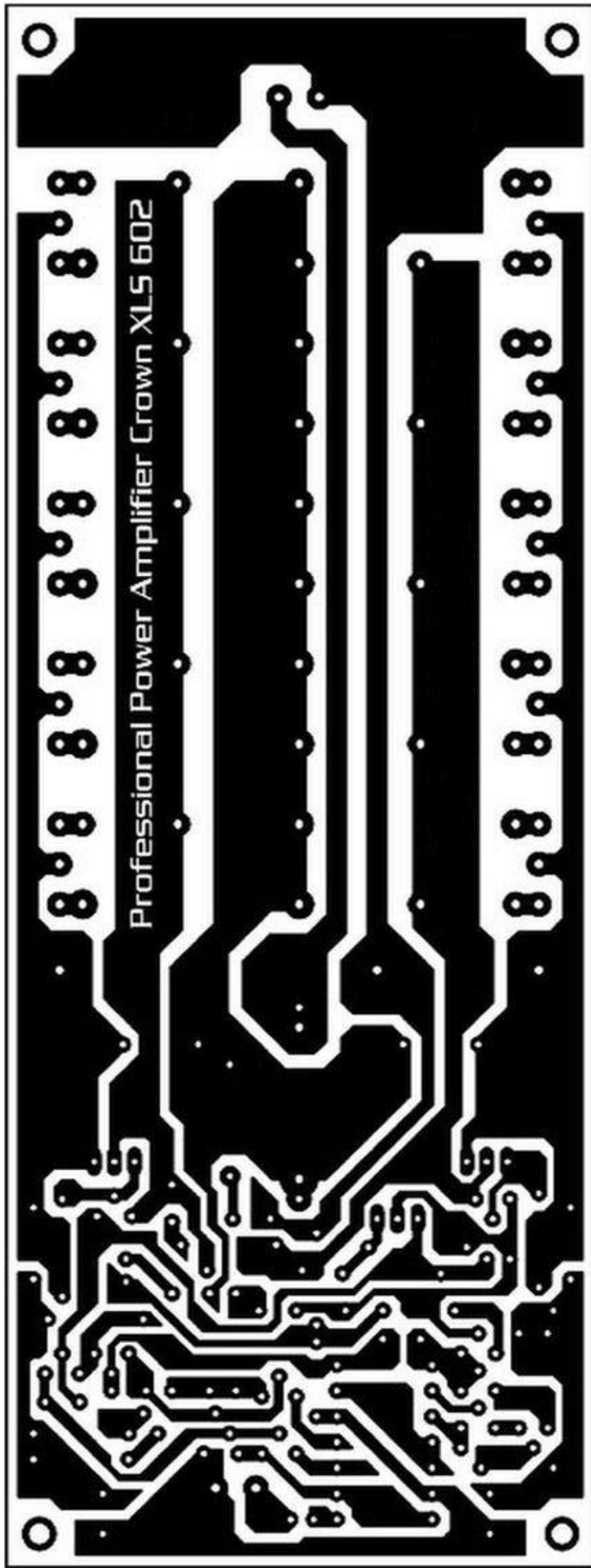




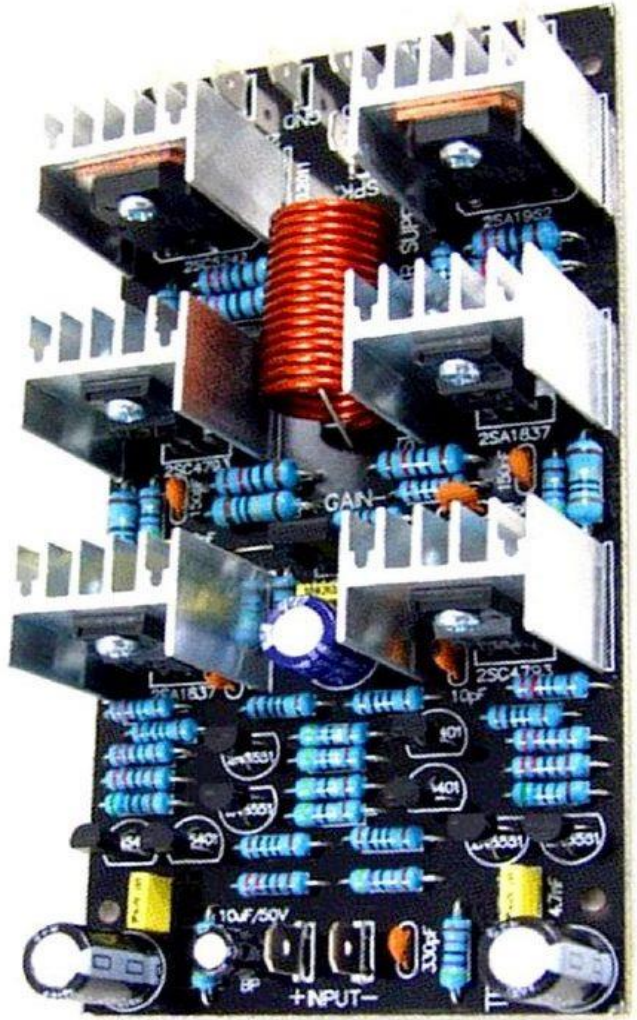
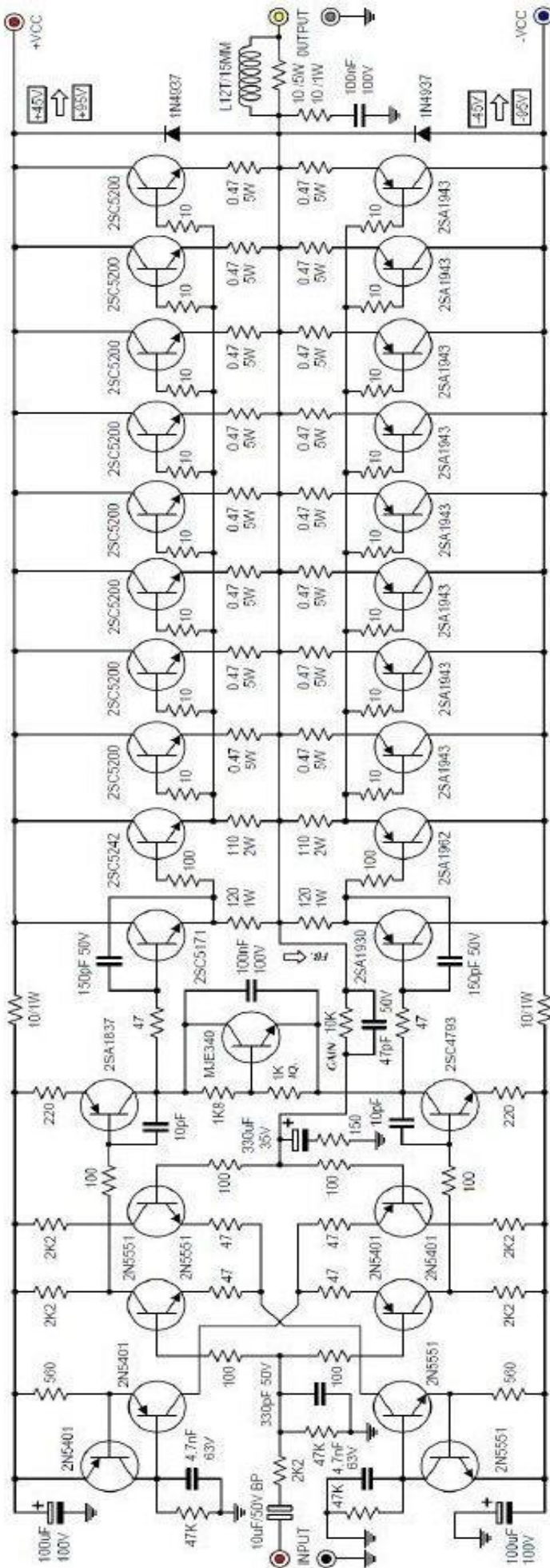


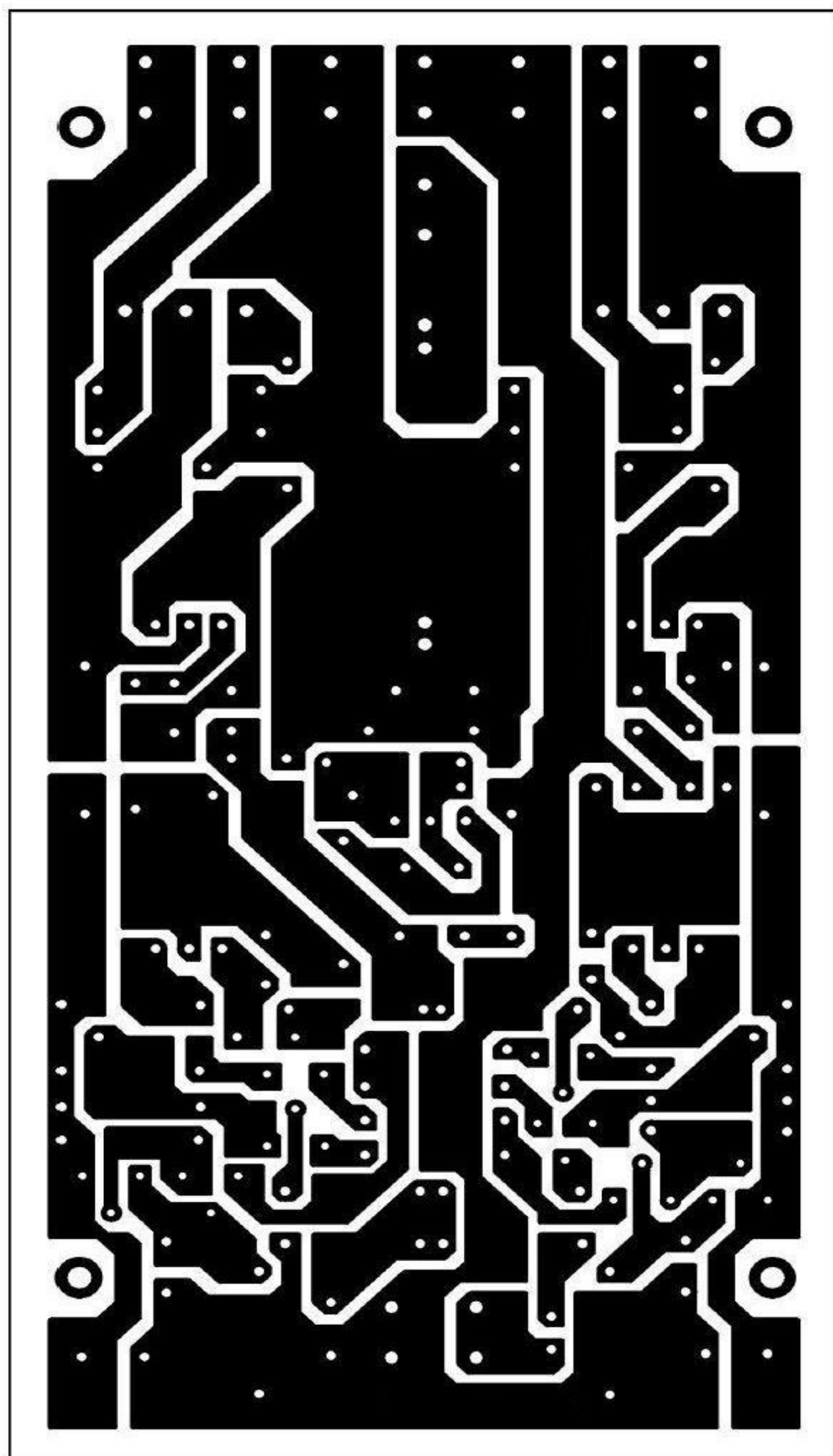
odyo ampli tr 1200w 02-01 CROWN XLS602

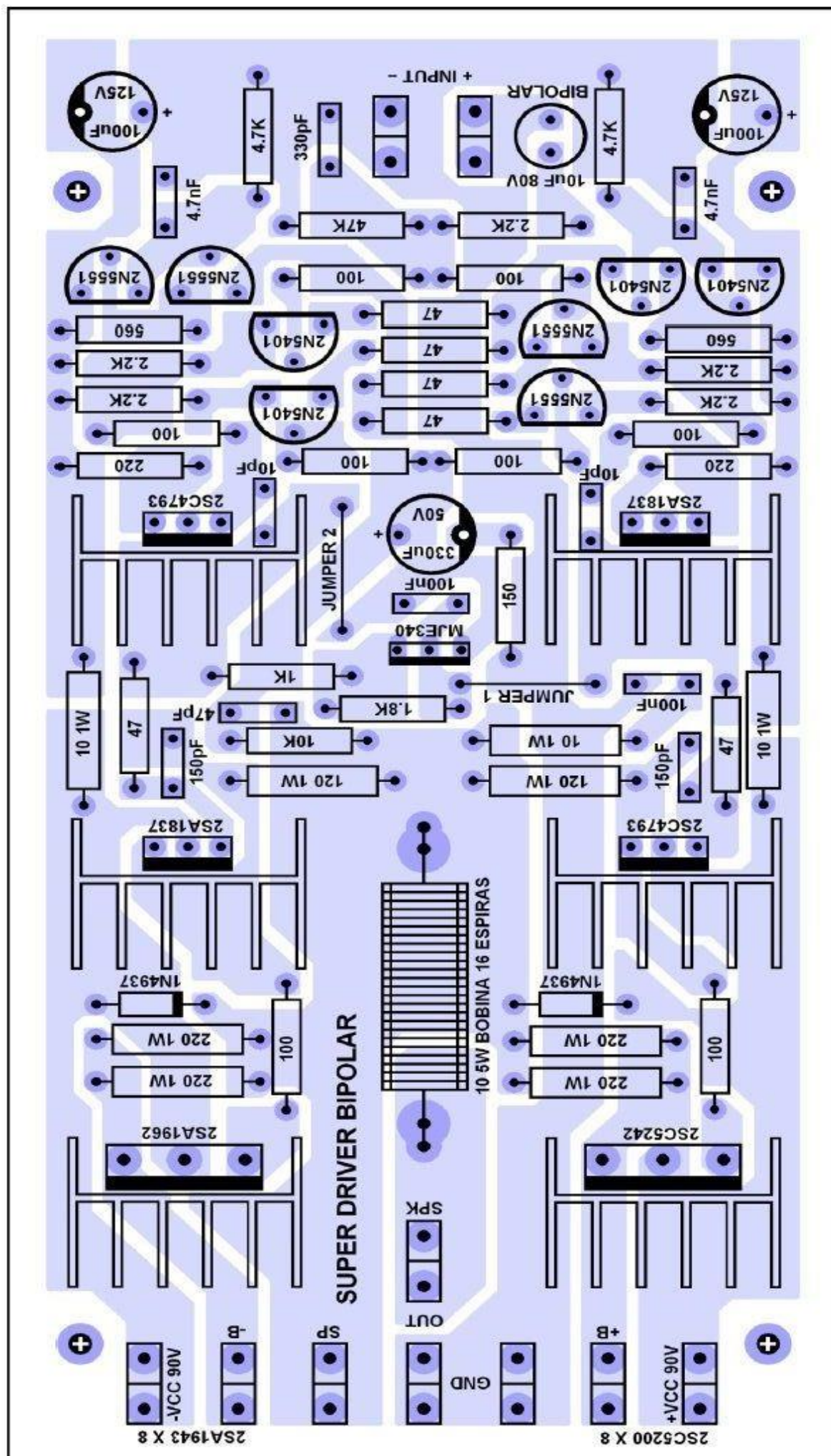


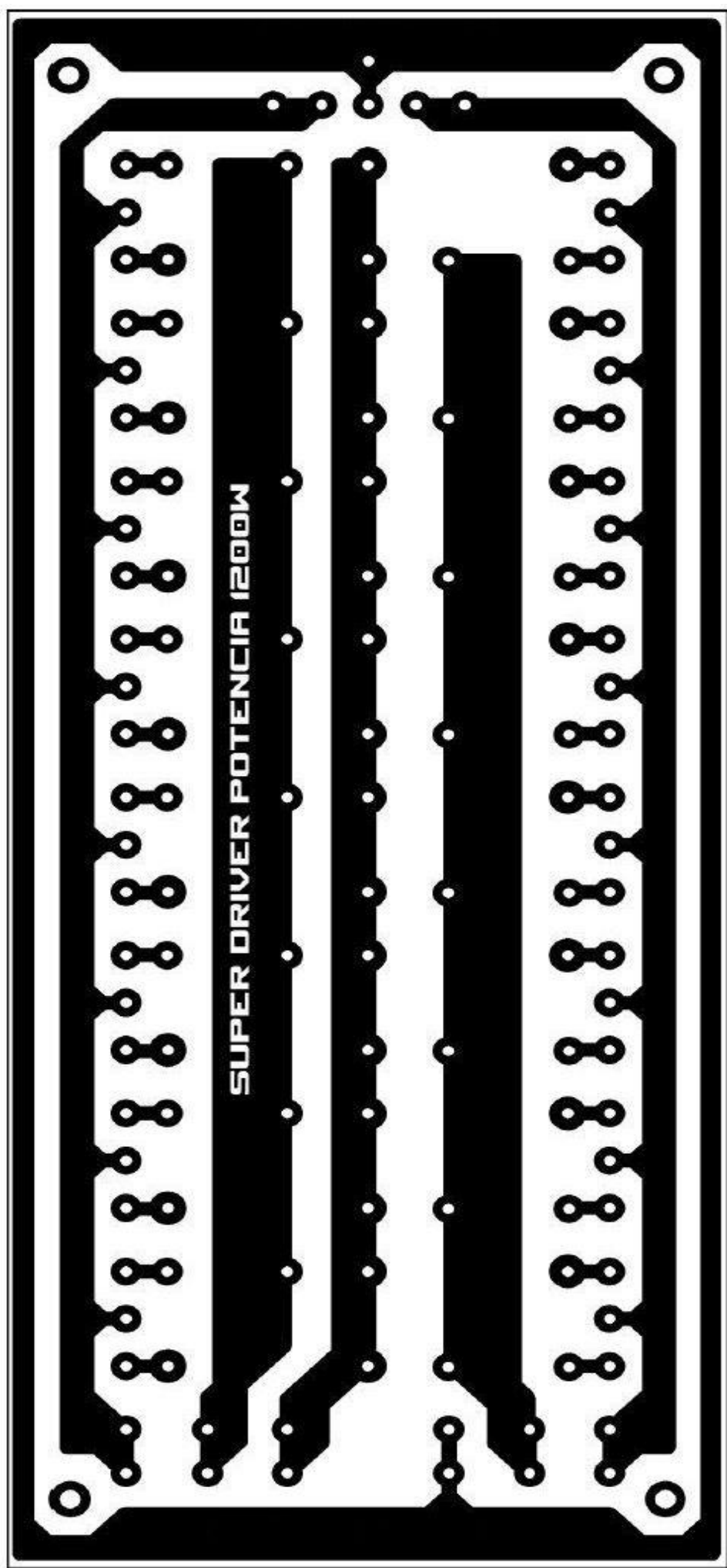


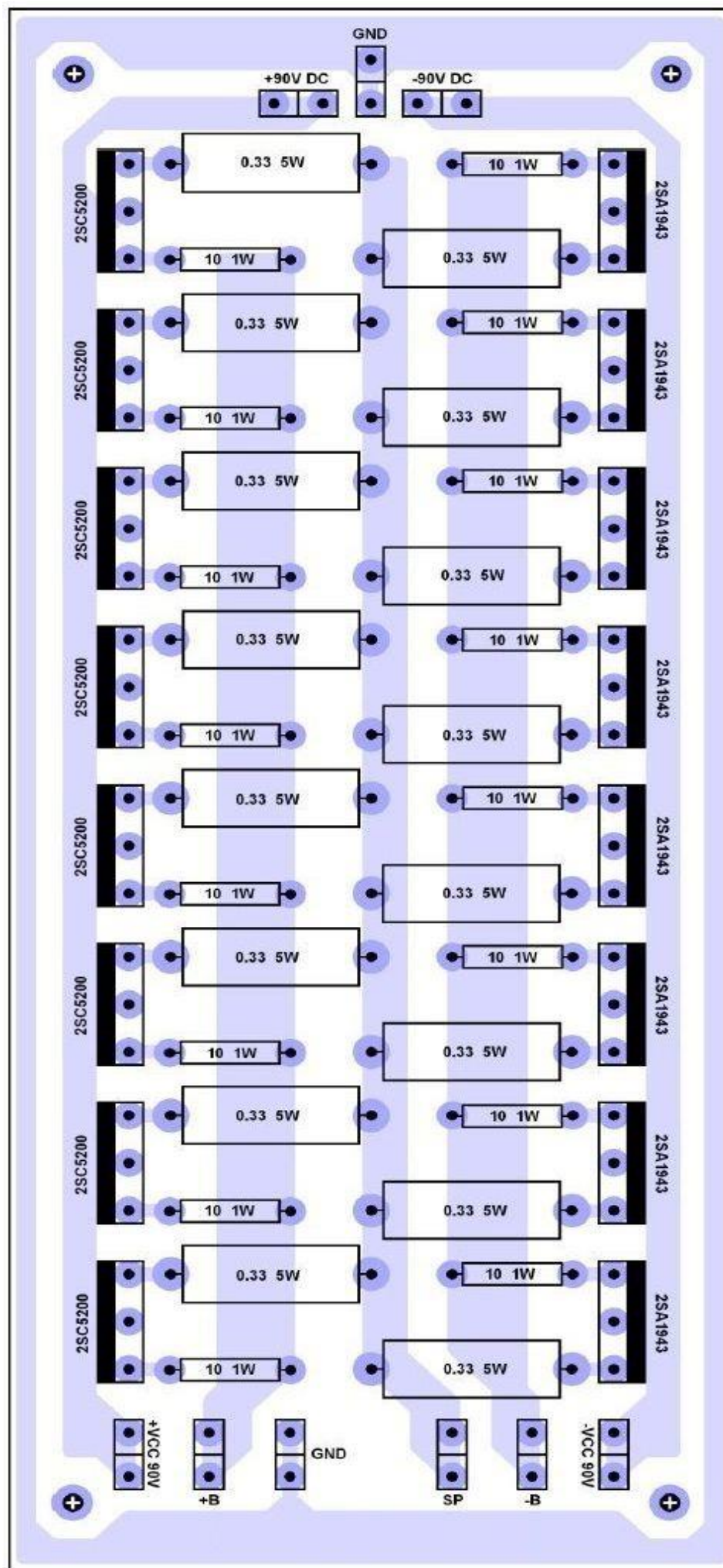
odyo ampli tr 1200w 04-01 ps3000

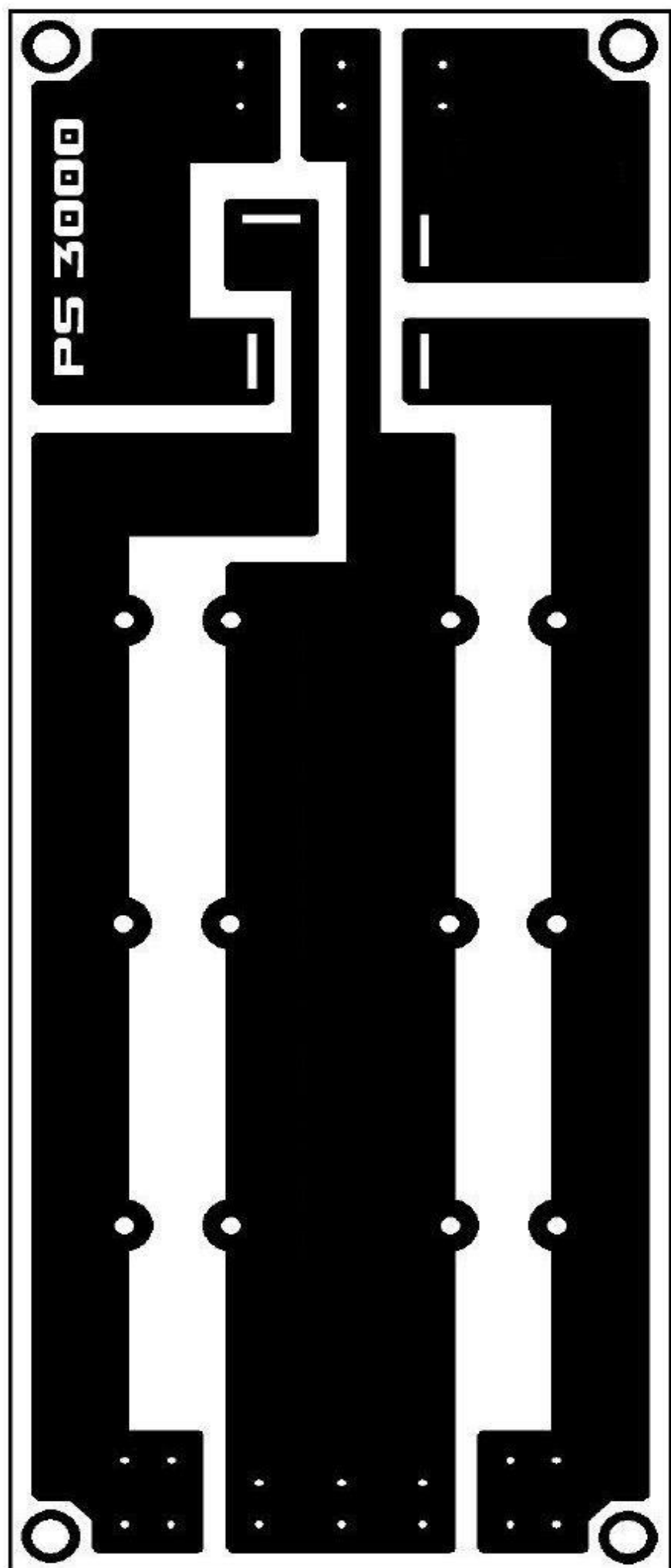


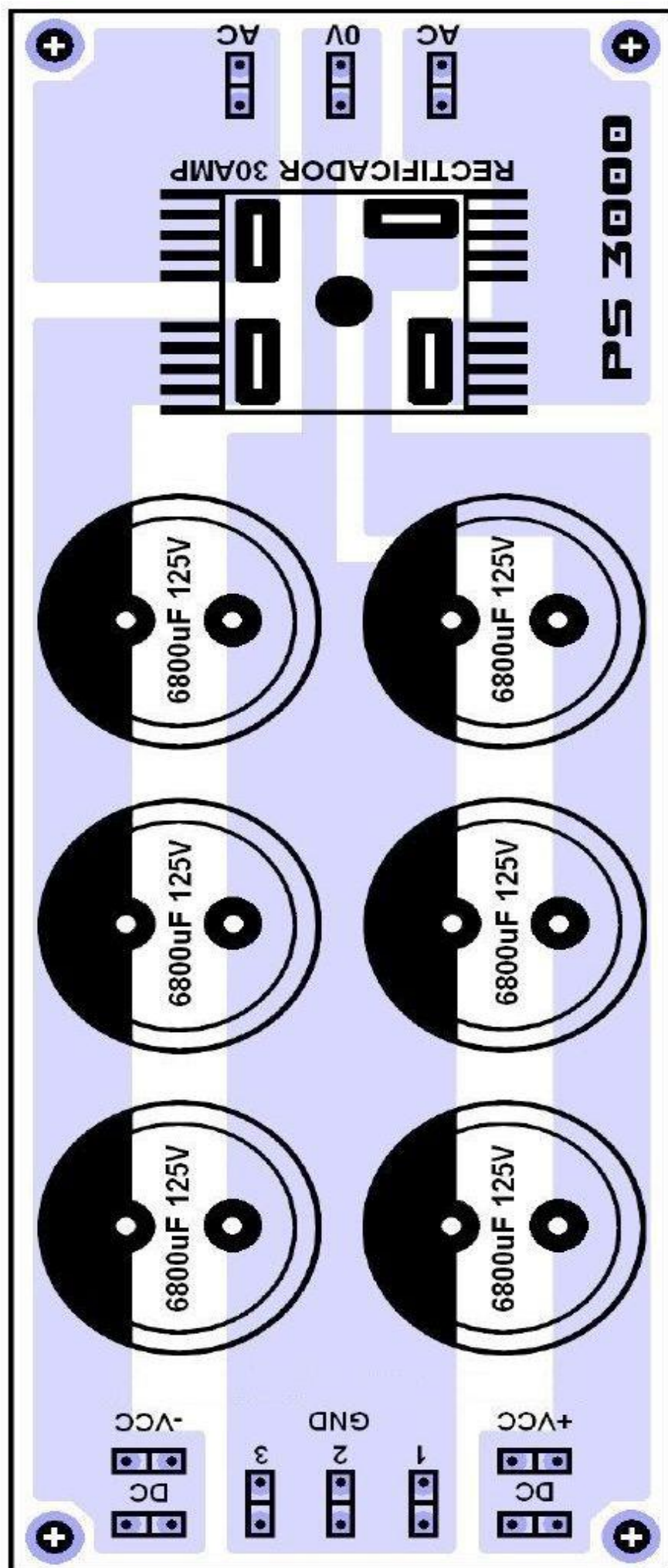


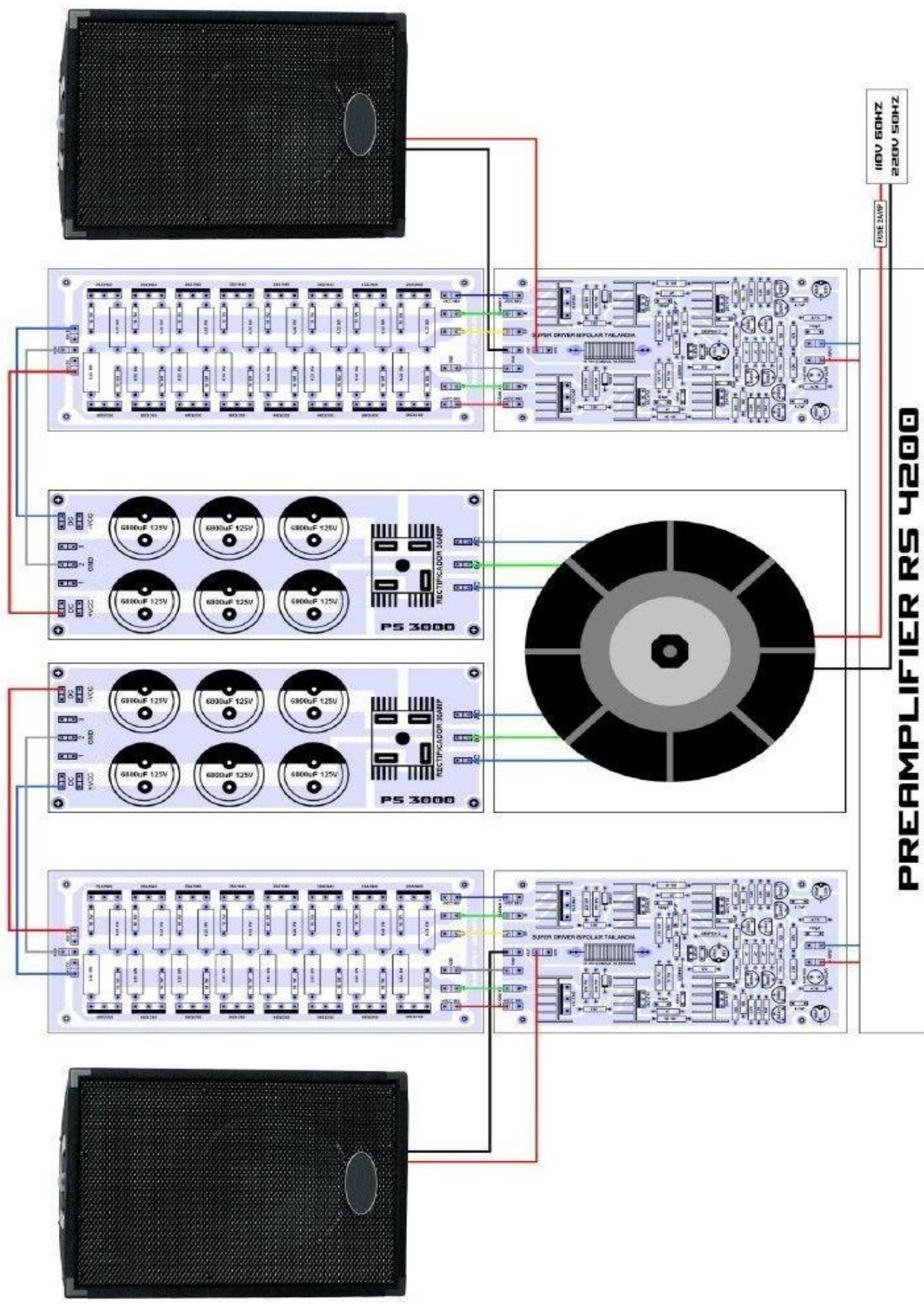






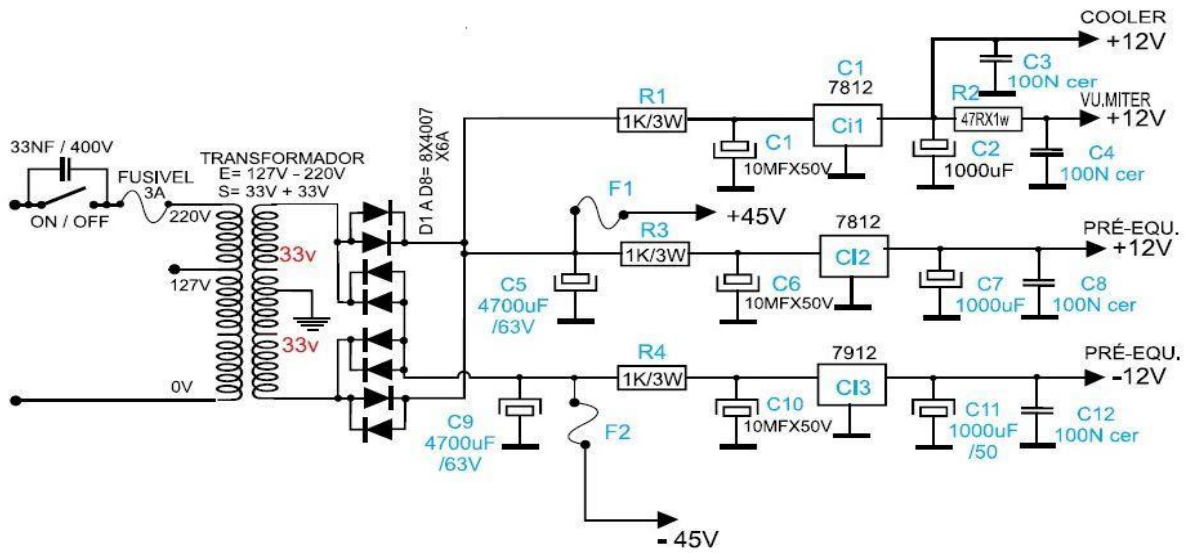
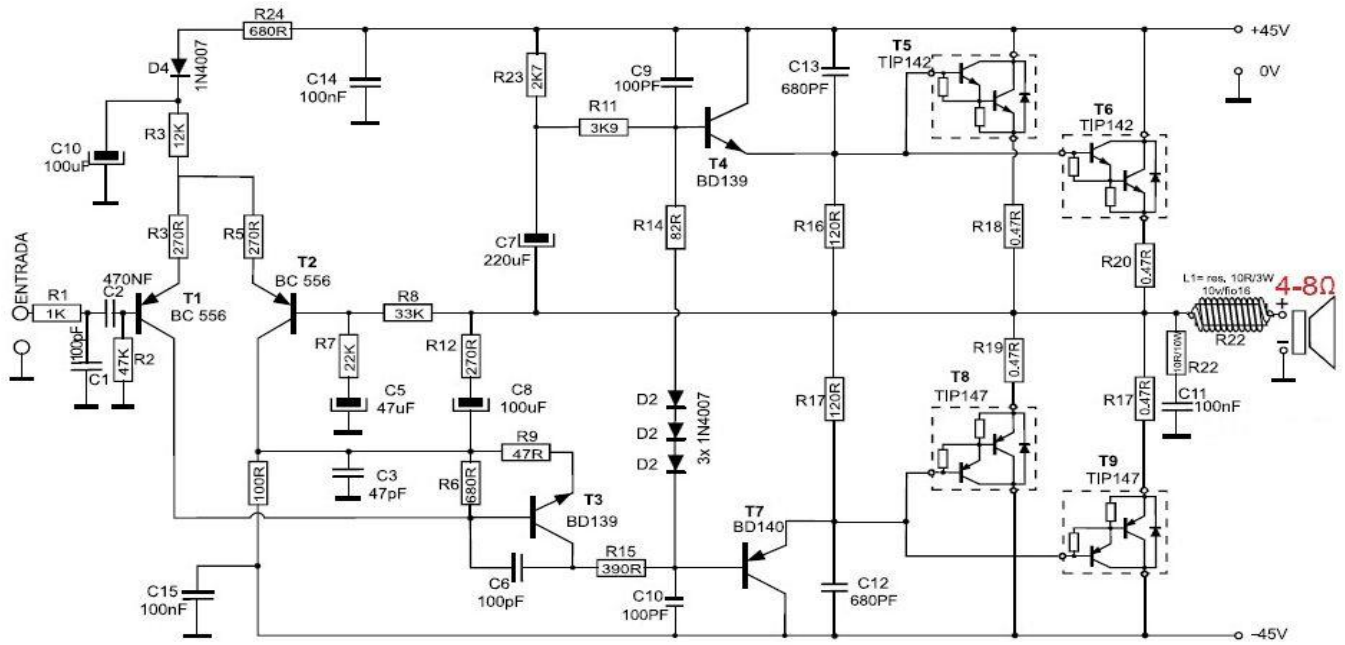


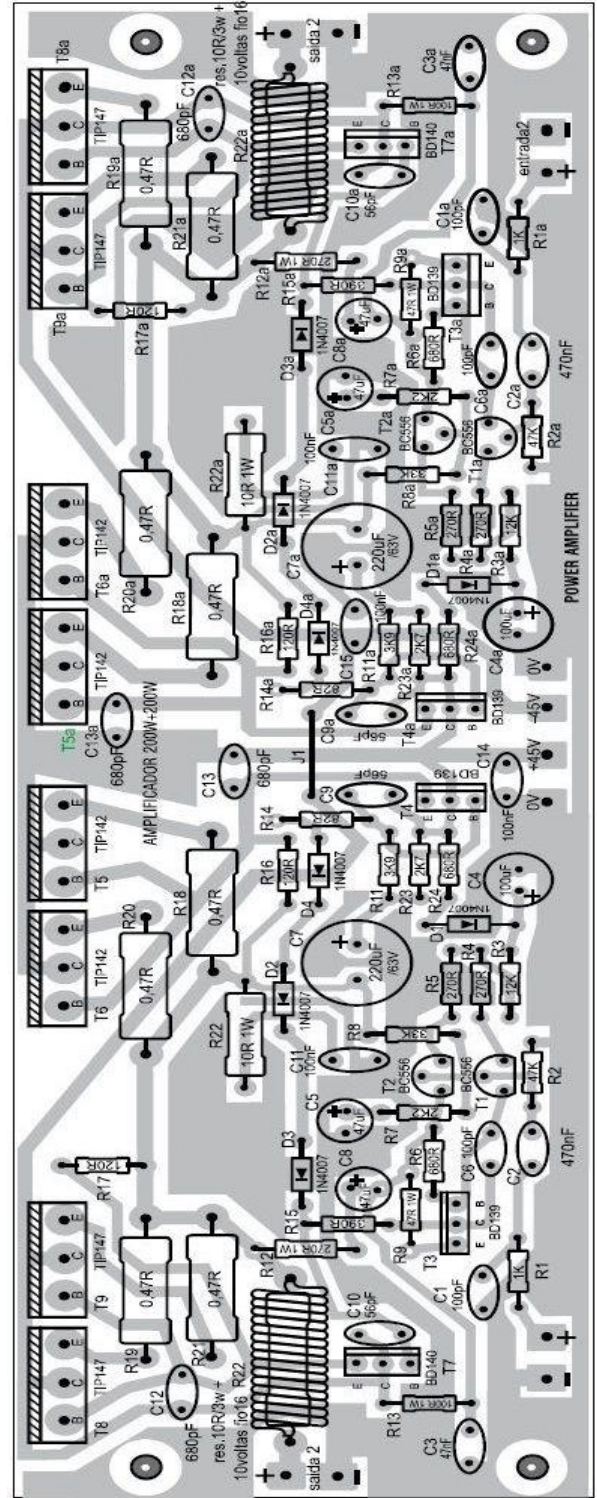
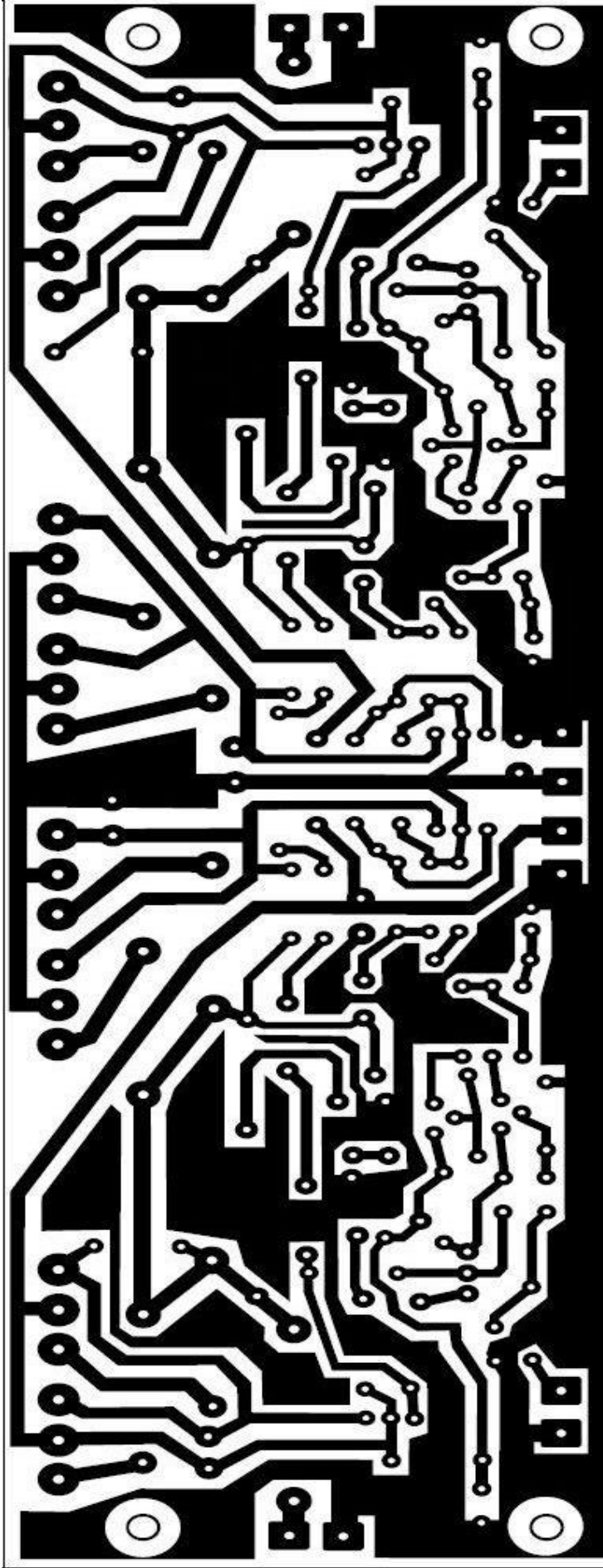




PREAMPLIFIER RS 4200

odyo ampli tr 3000w 01-01 hi-fi

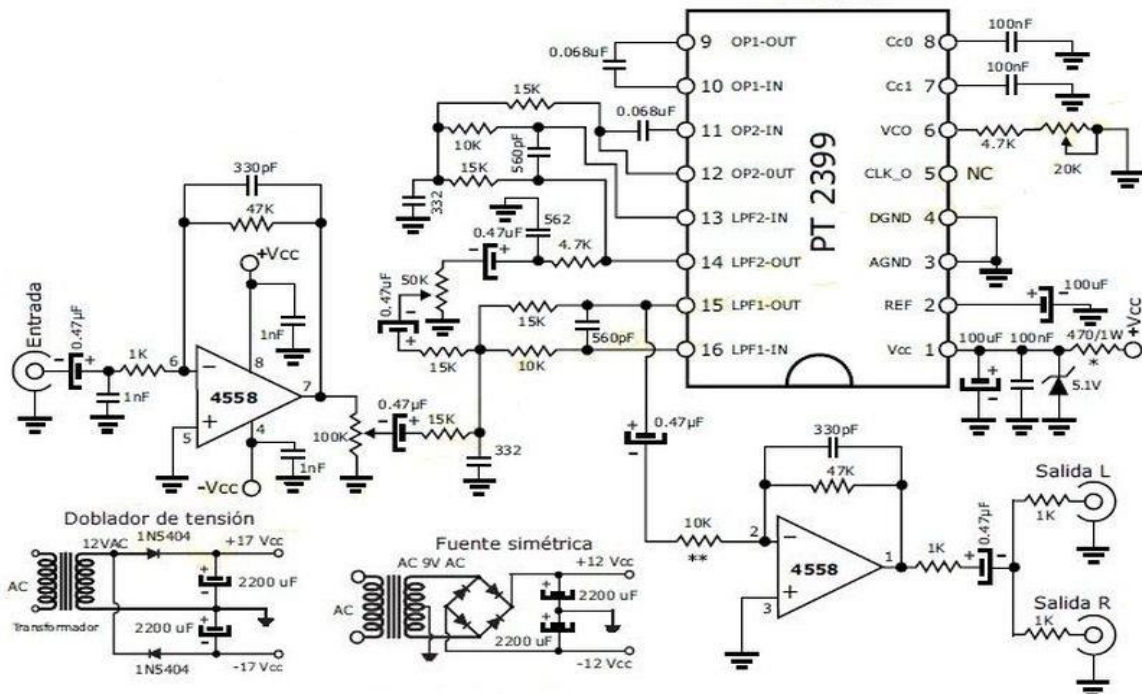
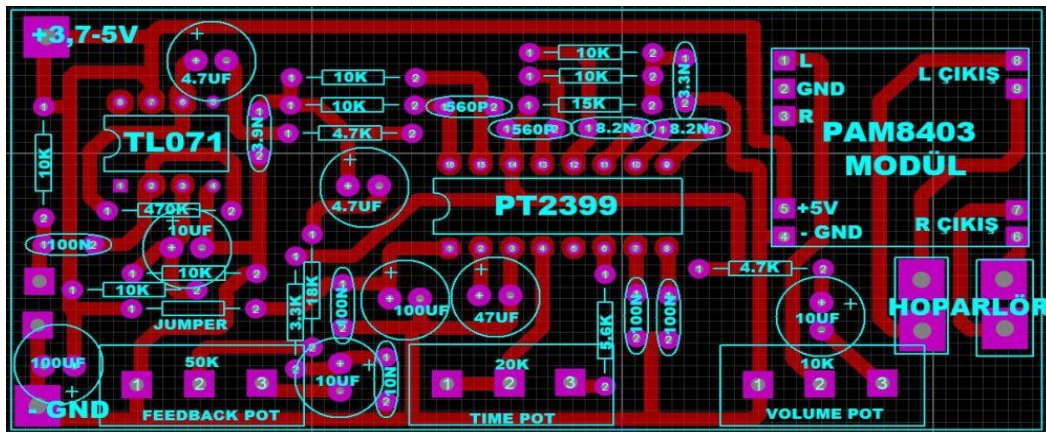
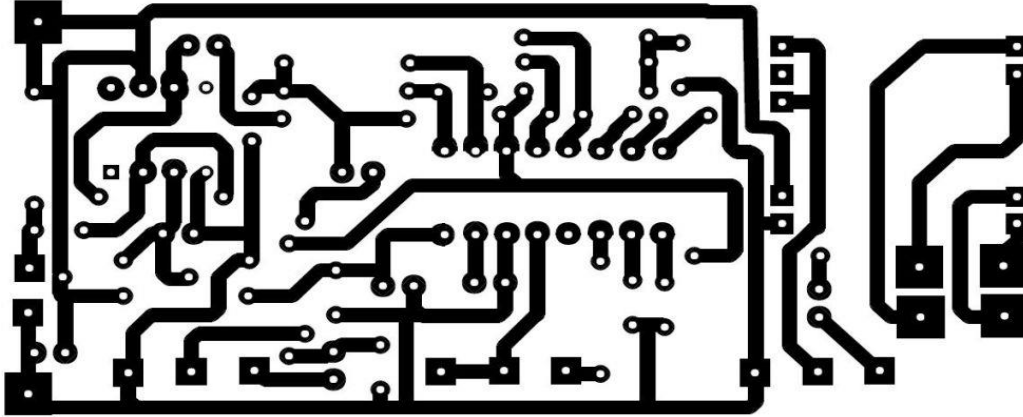
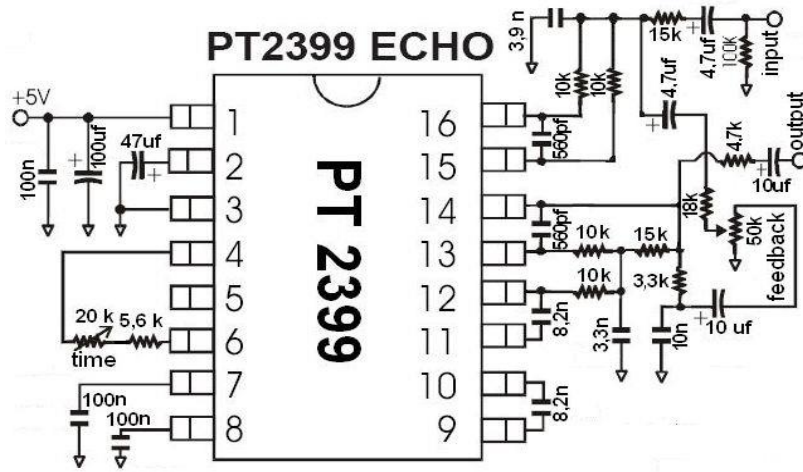


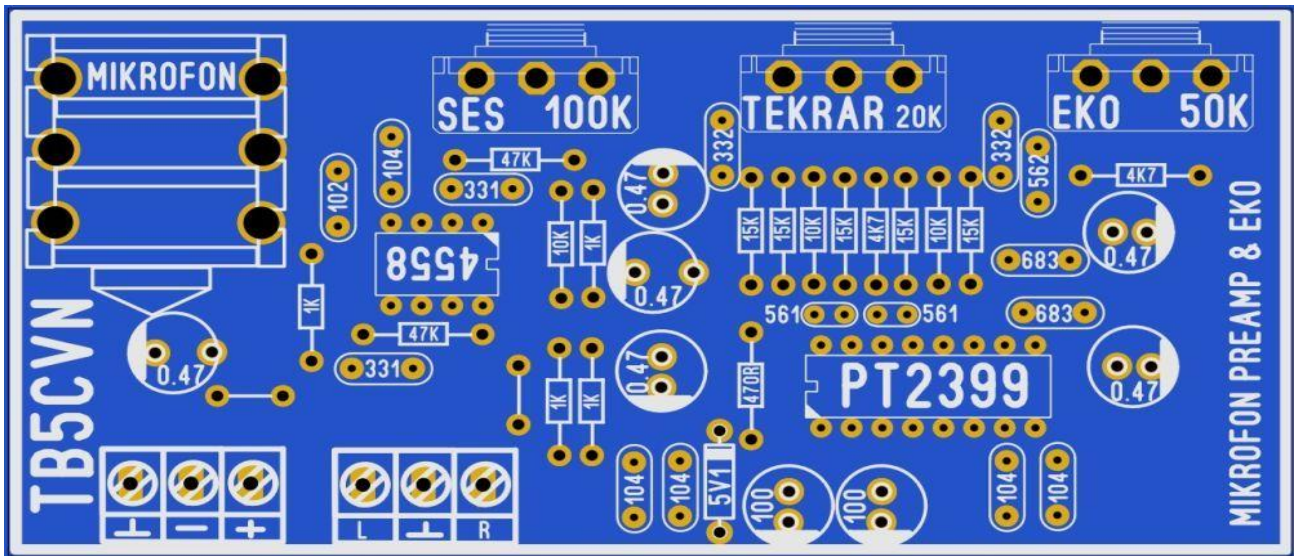
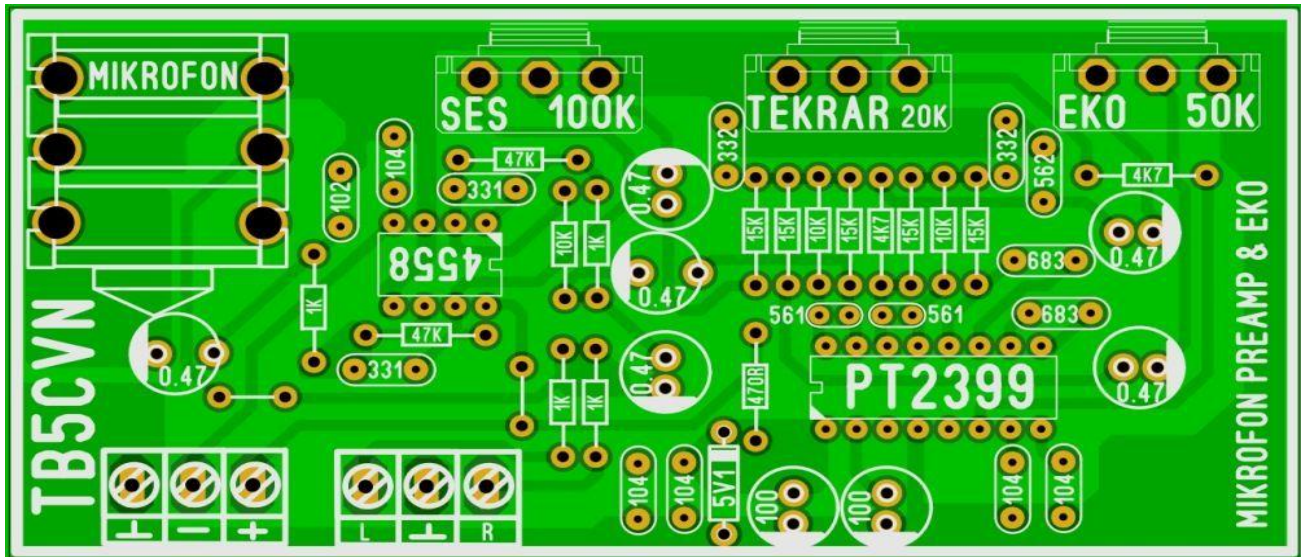


EKO - MIKSER - PREAMPLIFIKATÖR

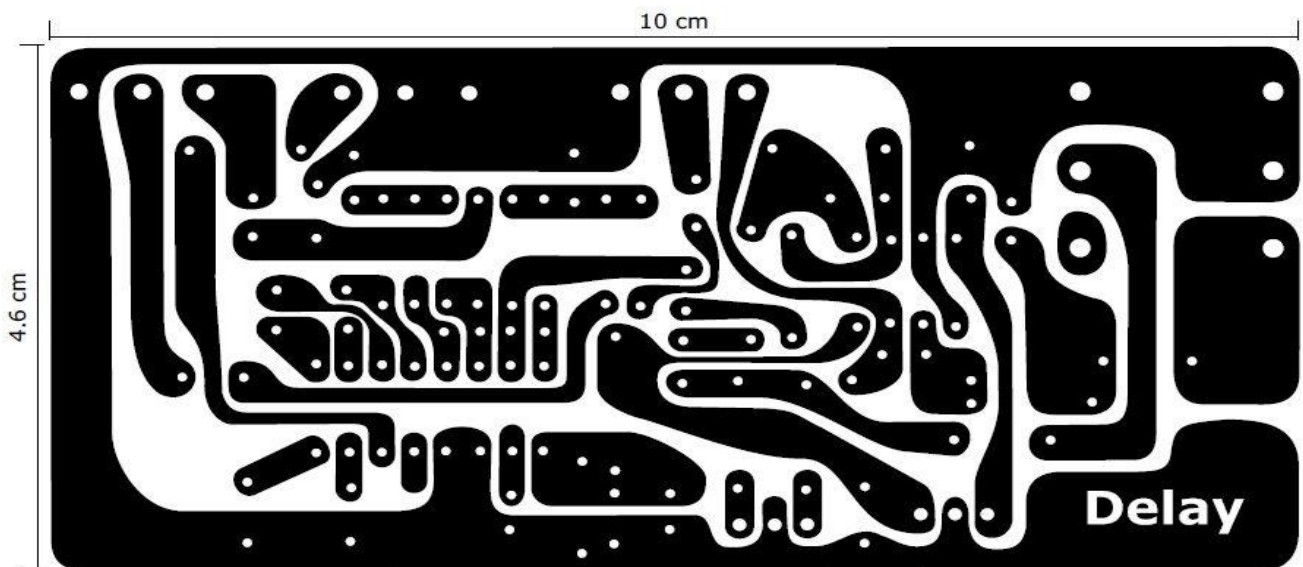
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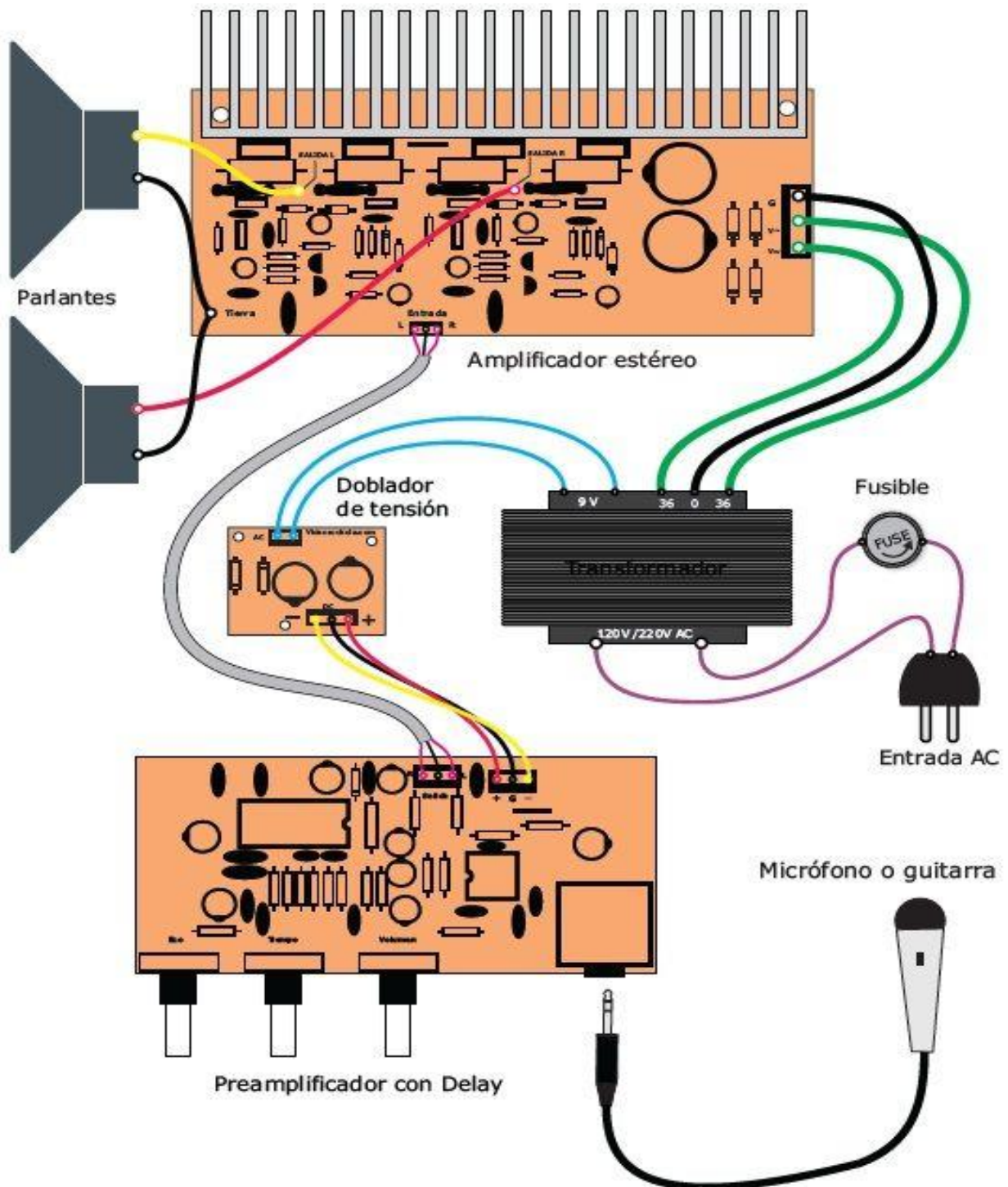
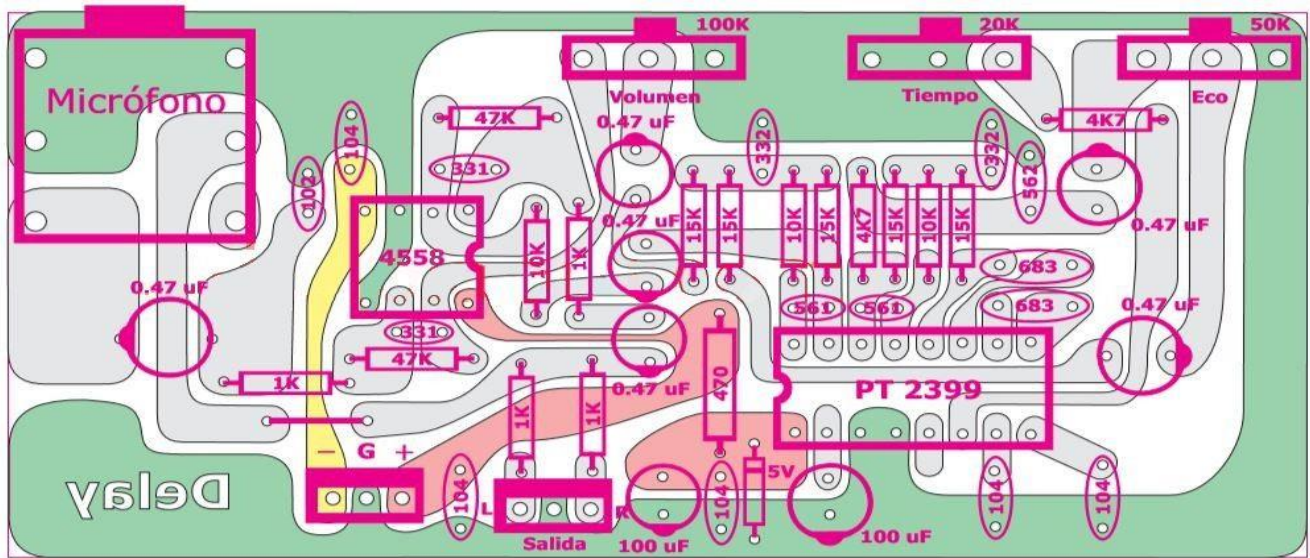


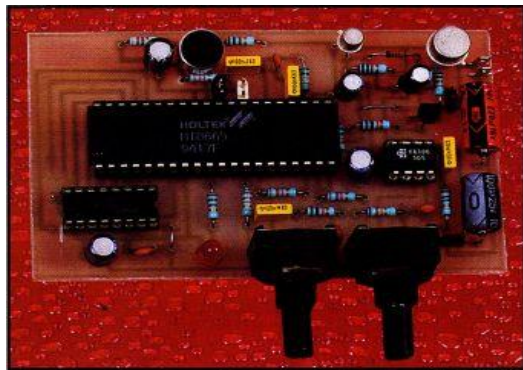
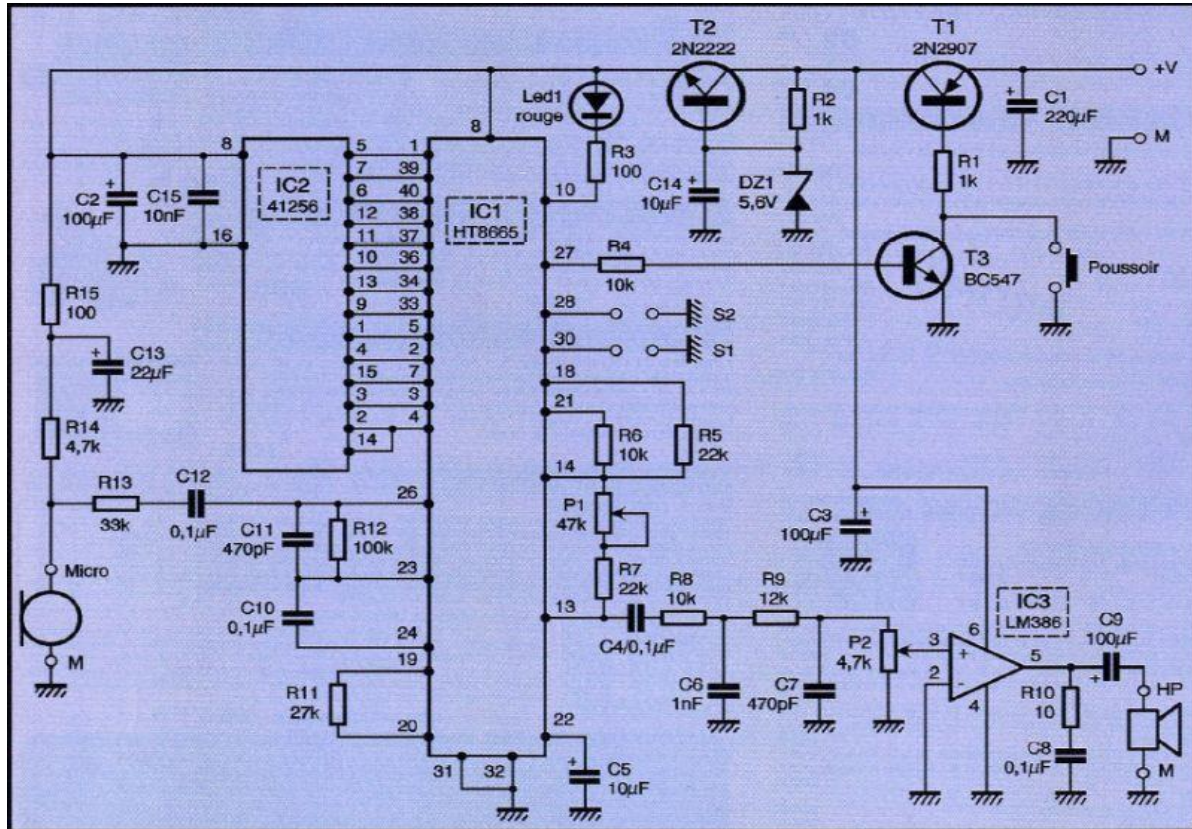




odyo diğer eko 02-05

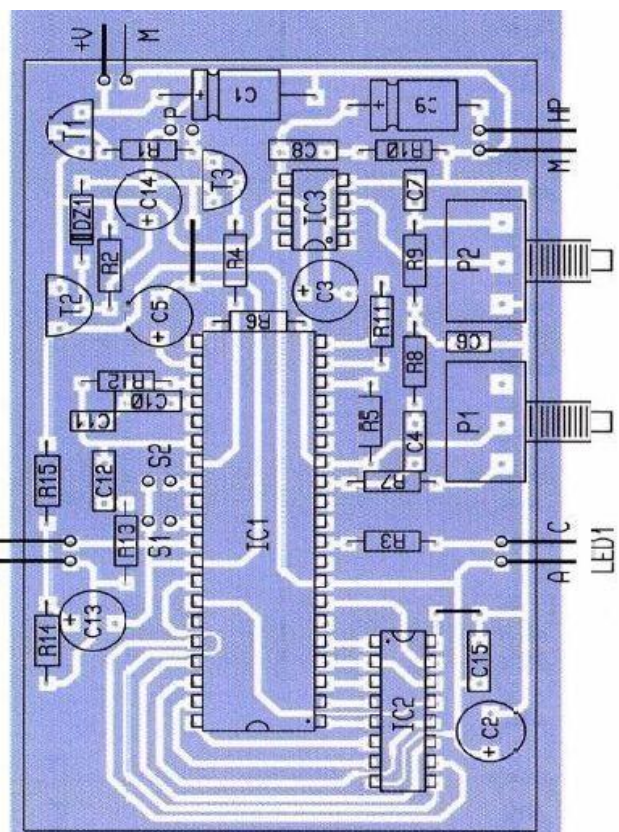
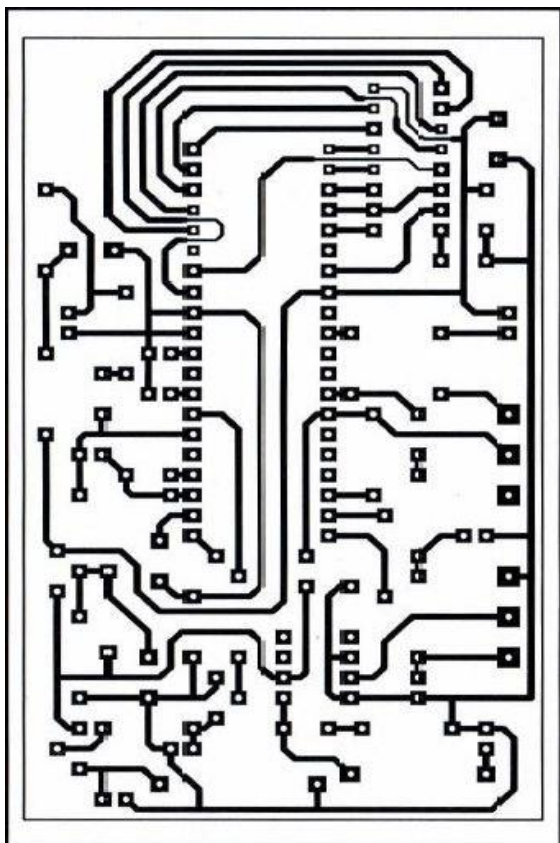


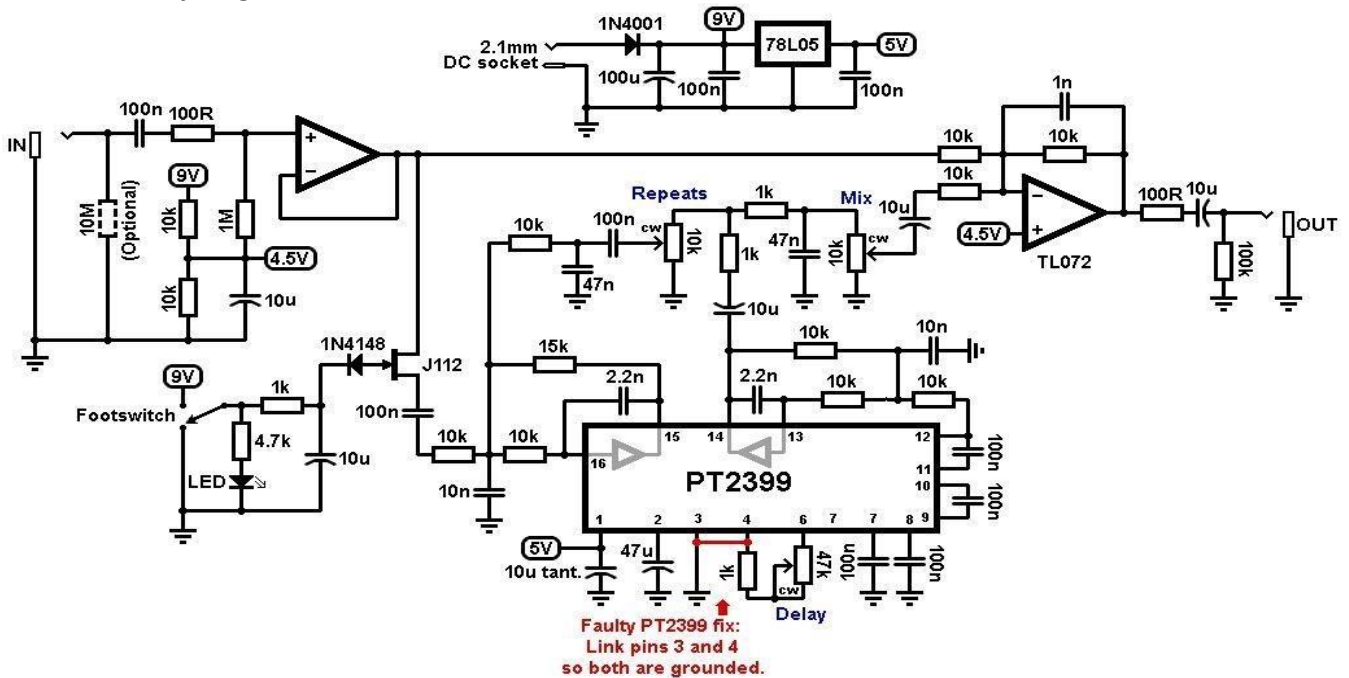
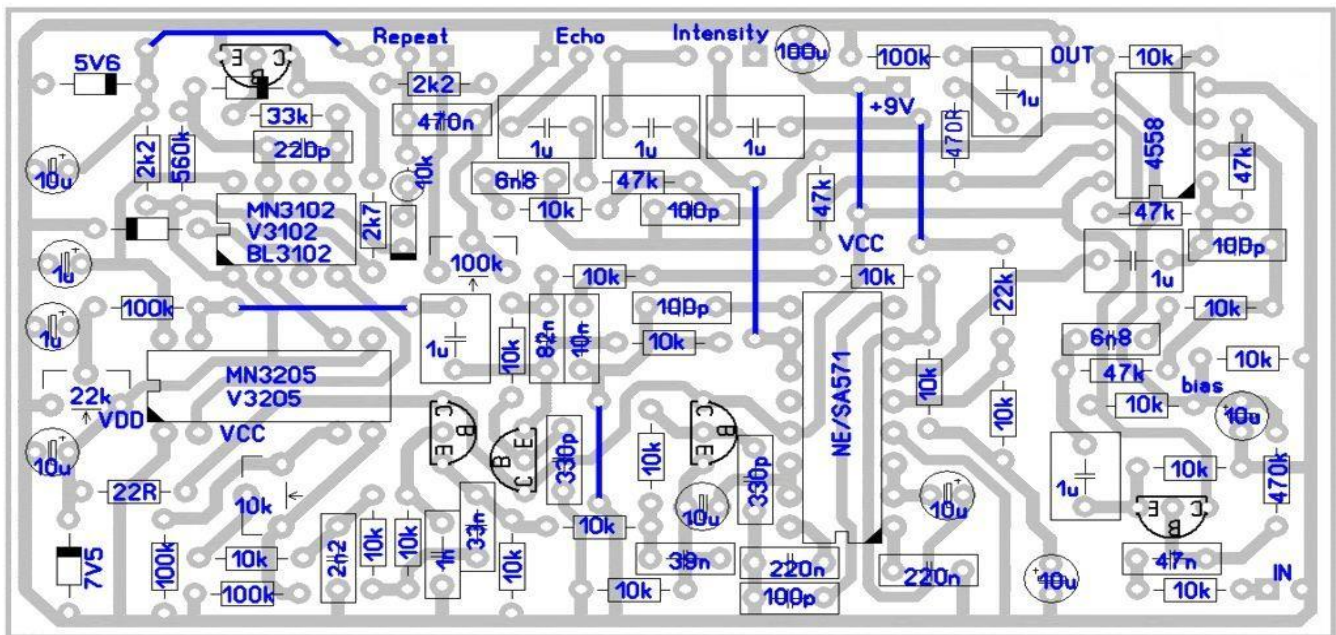
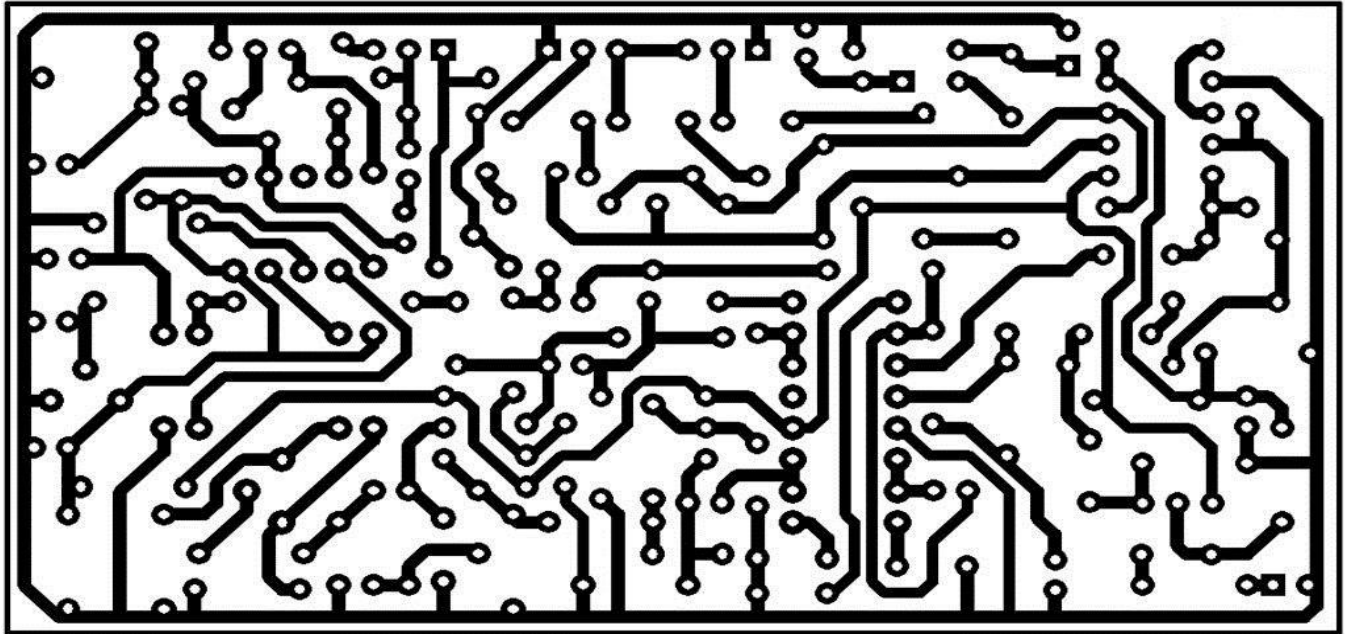


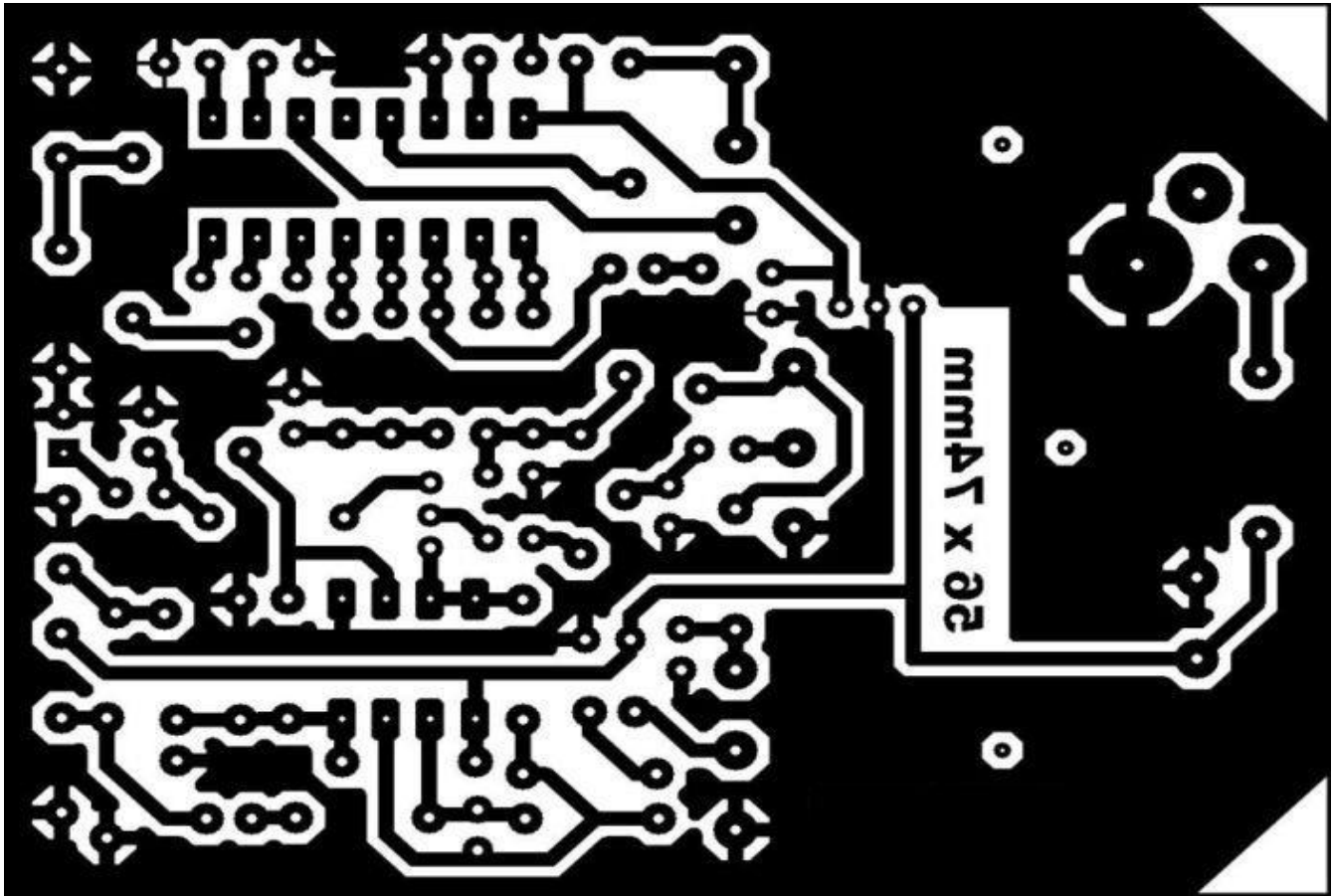


IC1 : HT8665 (SELECTRONIC)
IC2 : 41256 (RAM dynamique 256 K mots de 1 bit)
IC3 : LM386
T1 : 2N2907A ou 2N2905A
T2 : 2N2222 A ou 2N2219A
T3 : BC547, BC548, BC549
DZ1 : zéner 5,6V/400mW
LED1 : LED rouge quelconque
R1, R2 : 1 k Ω 1/4W 5%
R3, R4 : 100 Ω 1/4W 5%
R5, R6, R7 : 10 k Ω 1/4W 5%
R8, R9 : 22 k Ω 1/4W 5%
R10 : 10 Ω 1/4W 5%
R11 : 12 k Ω 1/4W 5%
R12 : 100 k Ω 1/4W 5%
R13 : 33 k Ω 1/4W 5%
R14 : 4,7 k Ω 1/4W 5%
C1 : 220 μ F/15V chimique axial
C2, C3 : 100 μ F/25V chimique radial

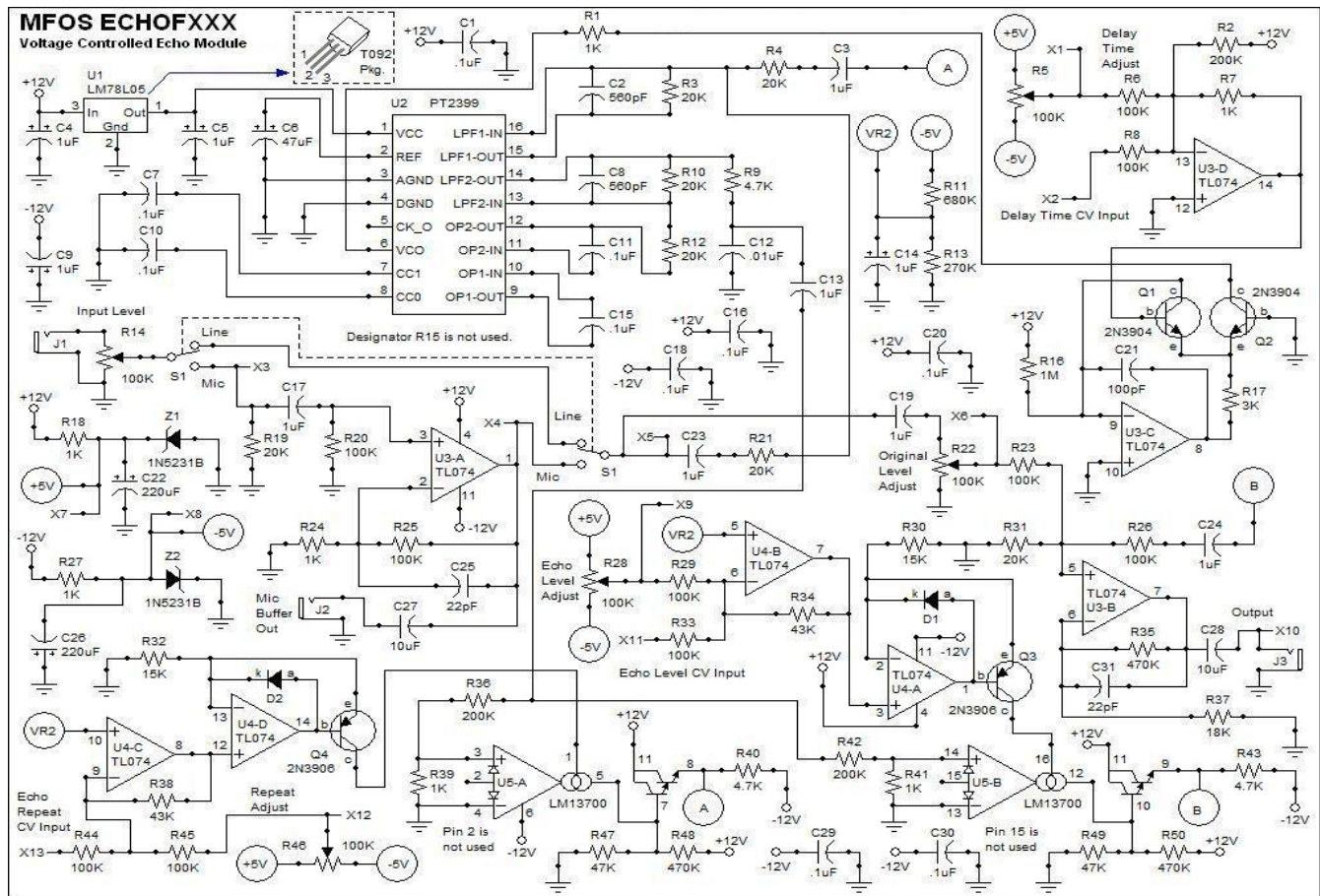
C4, C5, C6, C12 : 0,1 μ F mylar
C7, C14 : 10 μ F/25V chimique radial
C8 : 1 nF céramique ou mylar
C9, C11 : 470 pF céramique
C10 : 100 μ F/15V chimique axial
C13 : 22 μ F/15V chimique radial
C15 : 10 nF céramique
P1 : potentiomètre rotatif pour CI de 47 k Ω linéaire
P2 : potentiomètre rotatif pour CI de 4,7 k Ω logarithmique
MIC : micro à électret 2 fils
HP : haut-parleur miniature de 8 Ω
P : poussoir à un contact travail
S1, S2 : picots et straps au pas de 2,54 mm pour CI
1 support de CI 8 pattes
1 support de CI 16 pattes
1 support de CI 40 pattes



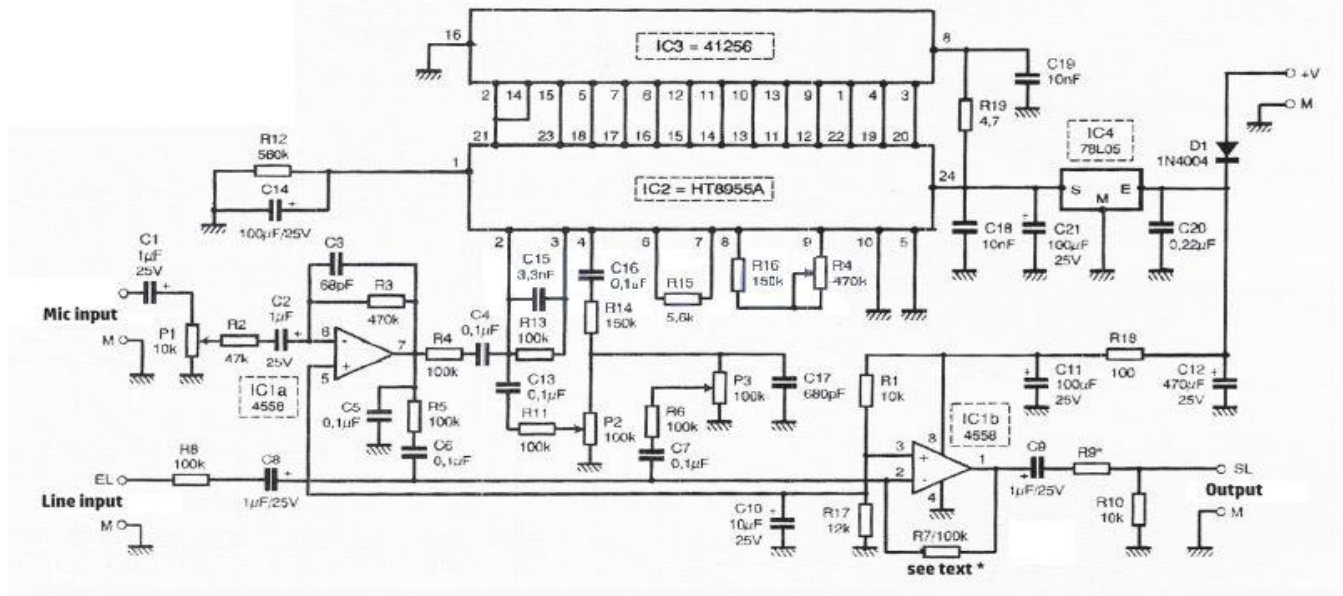




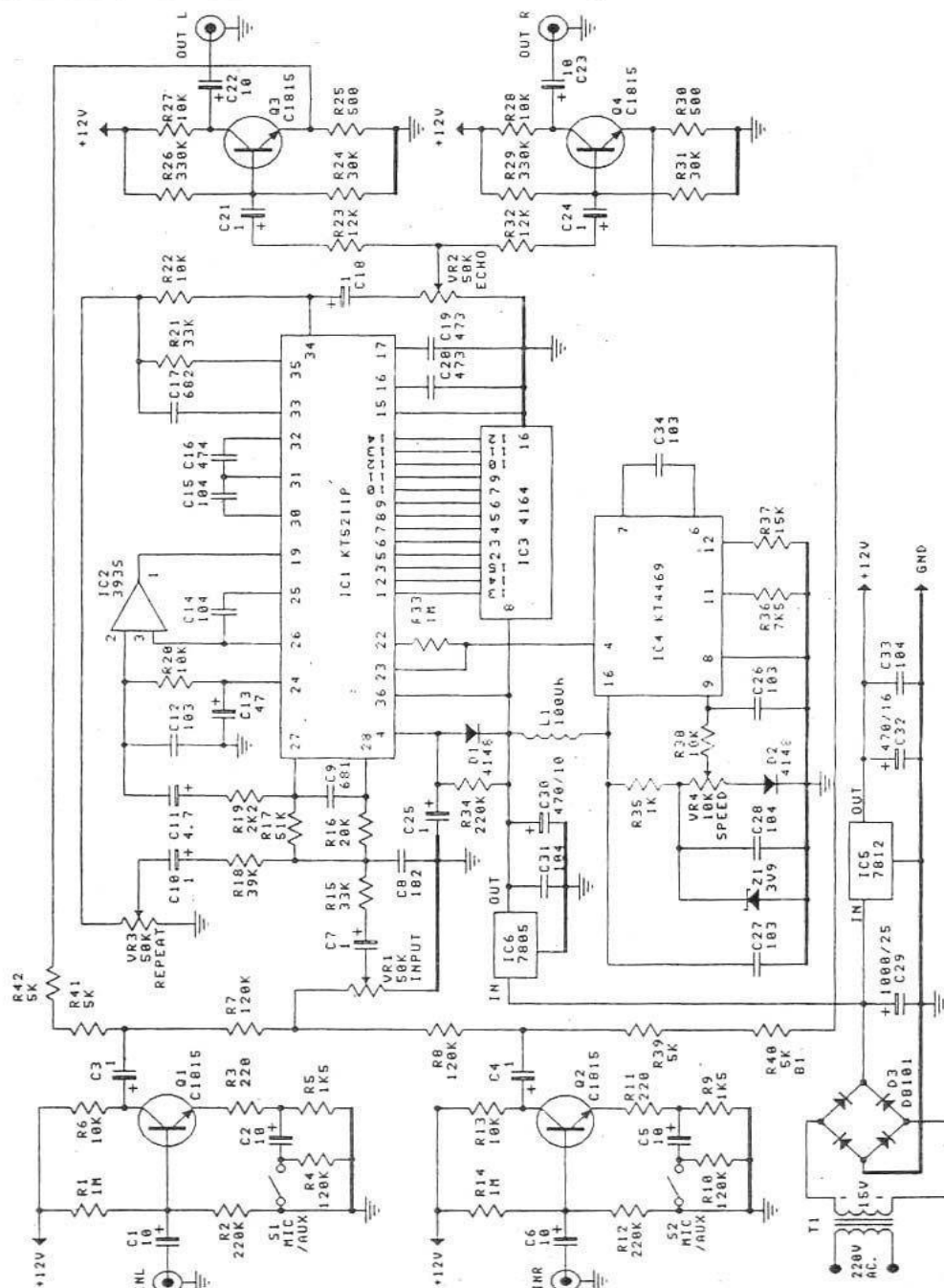
odyo diğer eko 06-01 PT2399



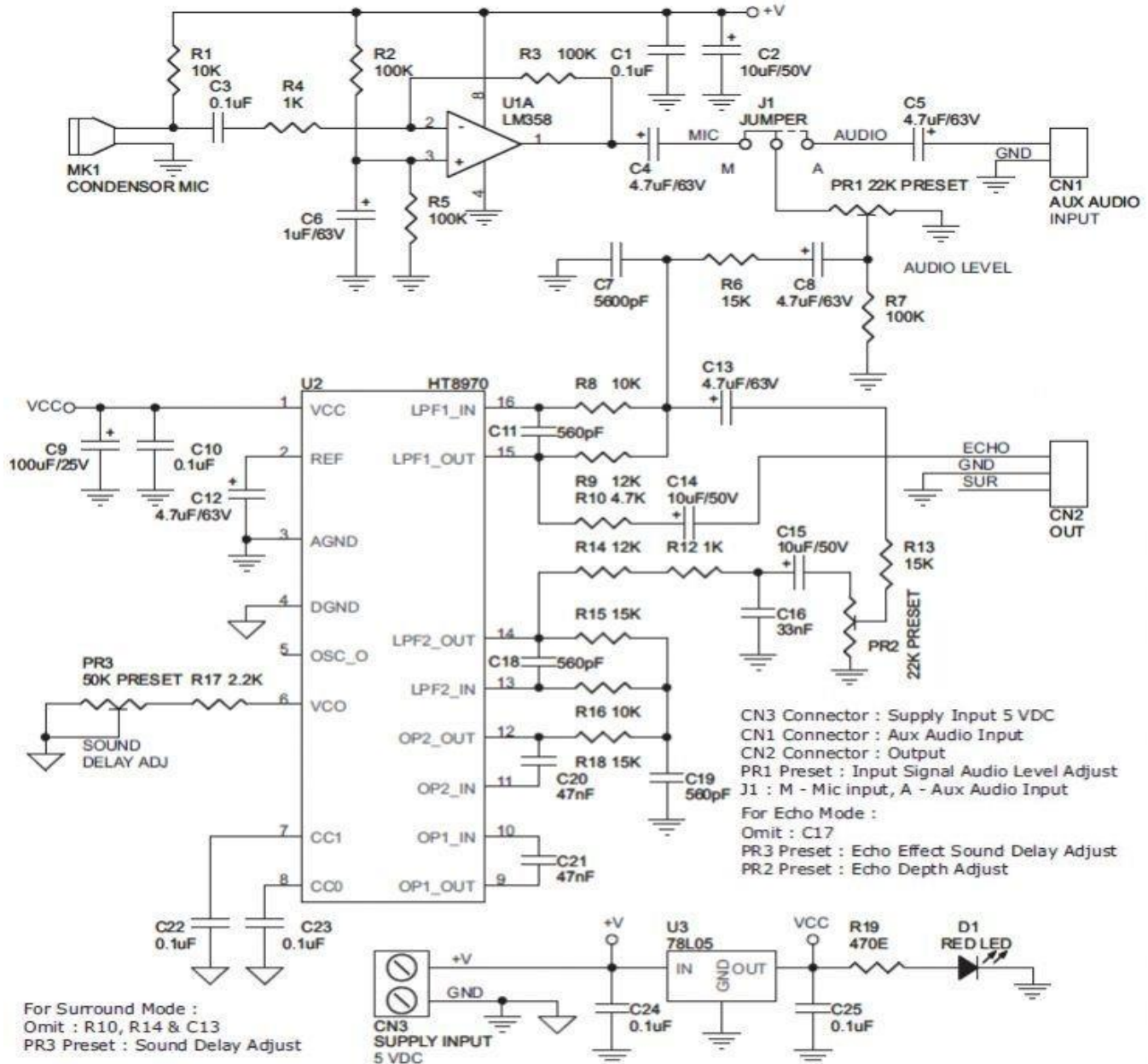
odyo diğer eko 09-01 HT8955A



odyo diğer eko 10-01 KTS211P

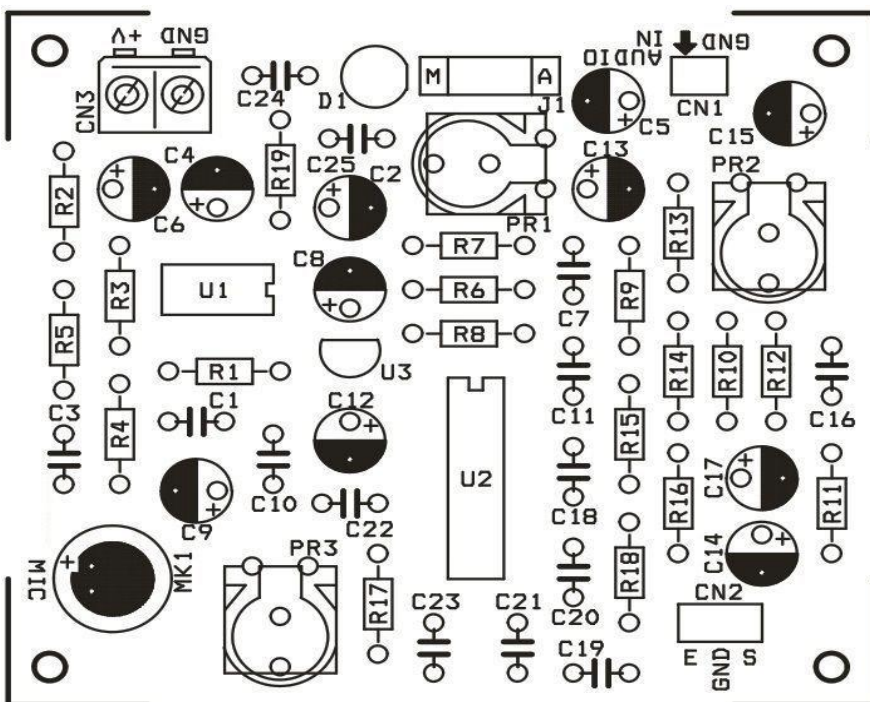


odyo diğەر eko 11-01 HT8970

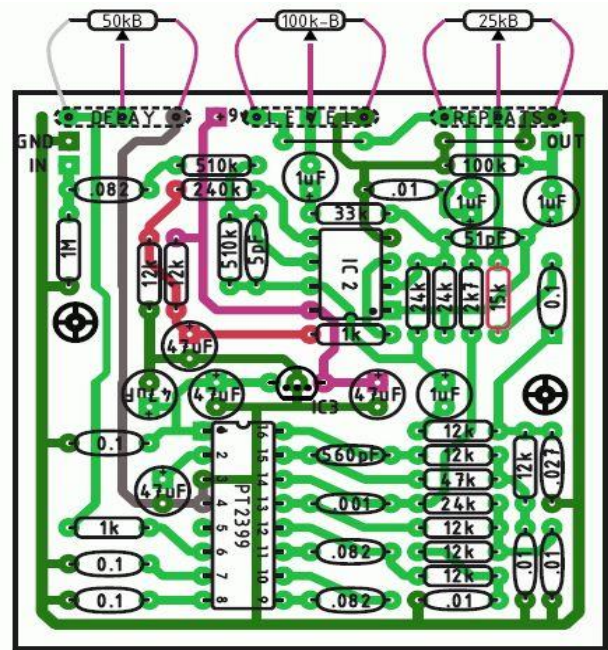
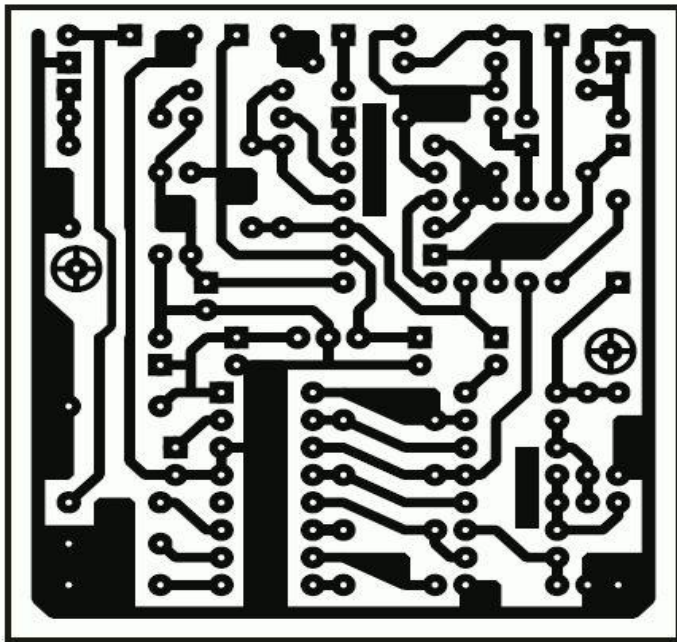
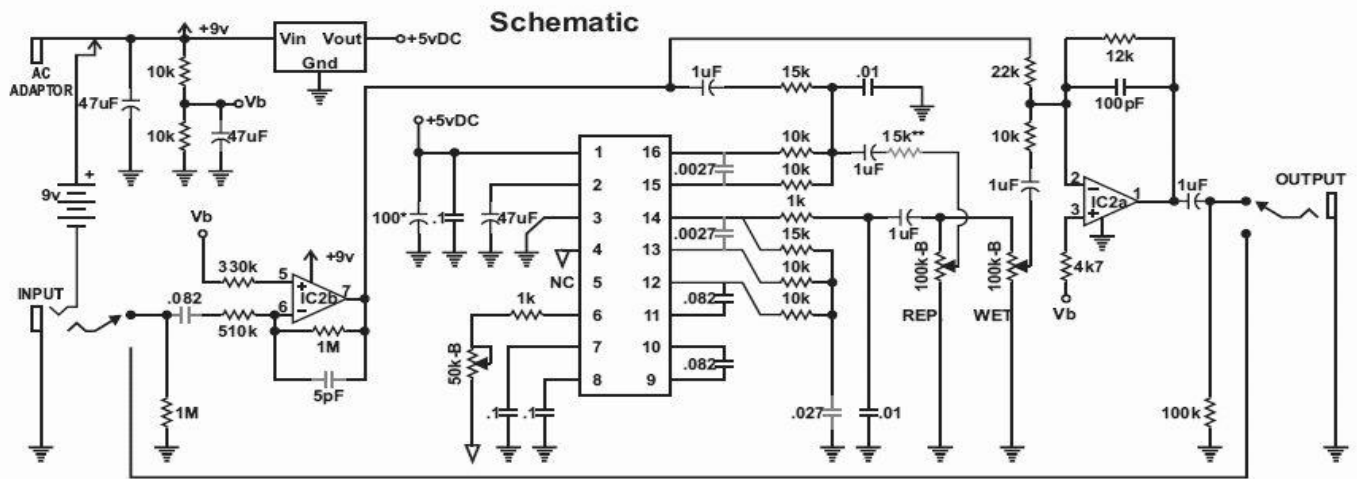


SR.	QTY.	REF.	DESCRIPTION
1	1	CN1	2 PIN BERG CONNECTOR
2	1	CN2	3 PIN BERG CONNECTOR
3	1	CN3	2 PIN TERMINAL BLOCK CONNECTOR
4	7	C1,C3,C10,C22,C23,C24,C25	0.1uF
5	4	C2,C14,C15,C17	10uF/50V OR 63V
6	5	C4,C5,C8,C12,C13	4.7uF/63V
7	1	C6	1uF/63V
8	1	C7	5600pF
9	1	C9	100uF/25V
10	3	C11,C18,C19	560pF
11	1	C16	33nF
12	2	C20,C21	47nF
13	1	D1	RED LED
14	1	J1	3 PIN JUMPER WITH CLOSER
15	1	MK1	ELECTRET CONDENSER MICROPHONE
16	2	PR1,PR2	22K PRESET
17	1	PR3	47K/50K PRESET
18	3	R1,R8,R16	10K
19	4	R2,R3,R5,R7	100K
20	2	R4,R12	1K
21	4	R6,R13,R15,R18	15K
22	2	R9,R14	12K
23	1	R10	4.7K
24	1	R11	3.3K
25	1	R17	2.2K
26	1	R19	470E
27	1	U1	LM358
28	1	U2	HT8970
29	1	U3	78L05
30	1	SOCKET	8 PIN DIP IC SOCKET
31	1	SOCKET	16 PIN DIP IC SOCKET

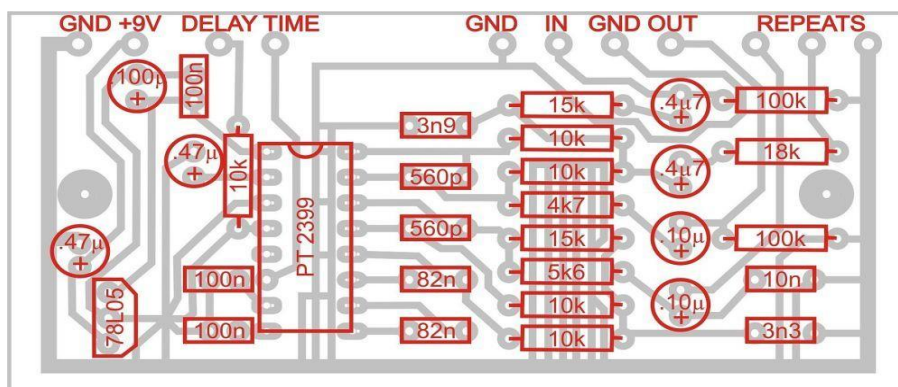
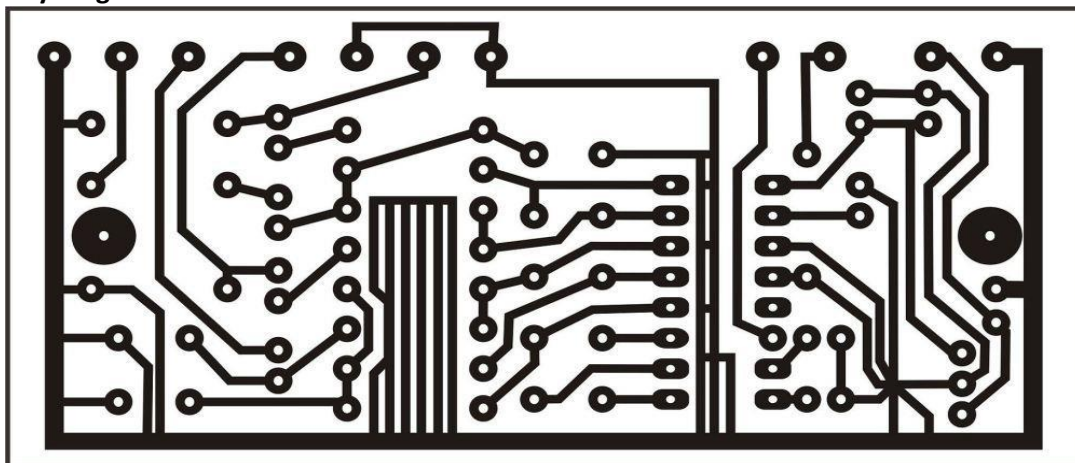


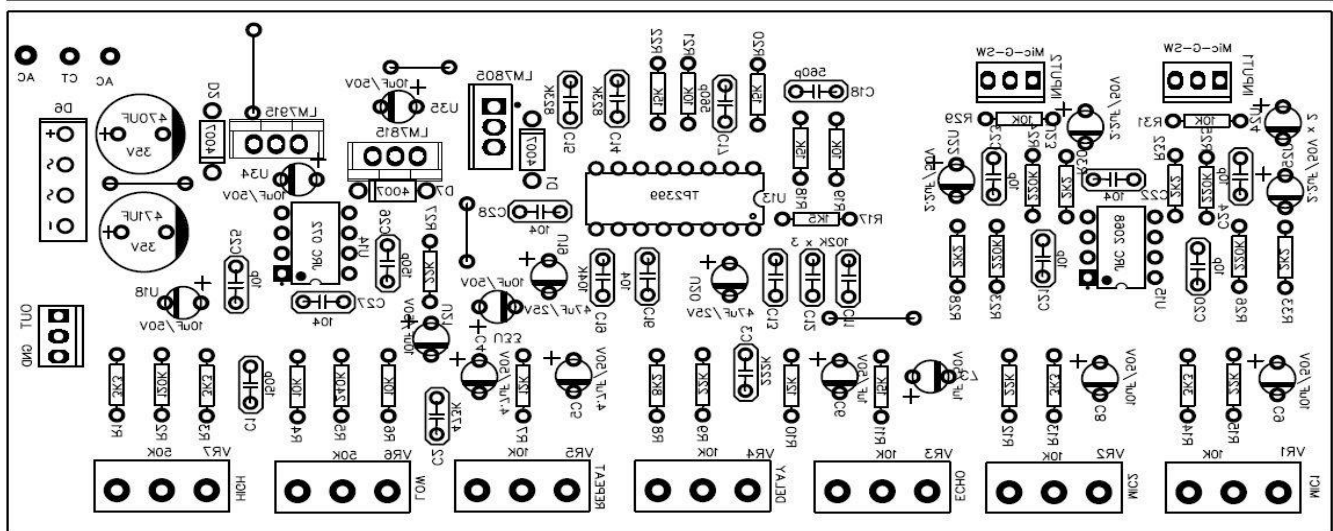
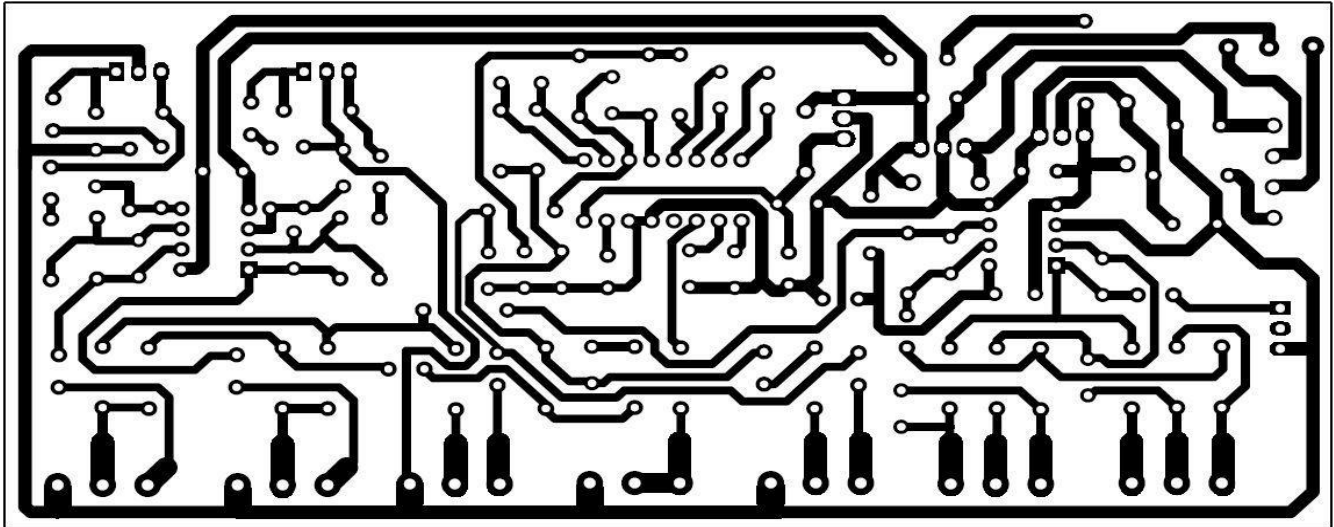


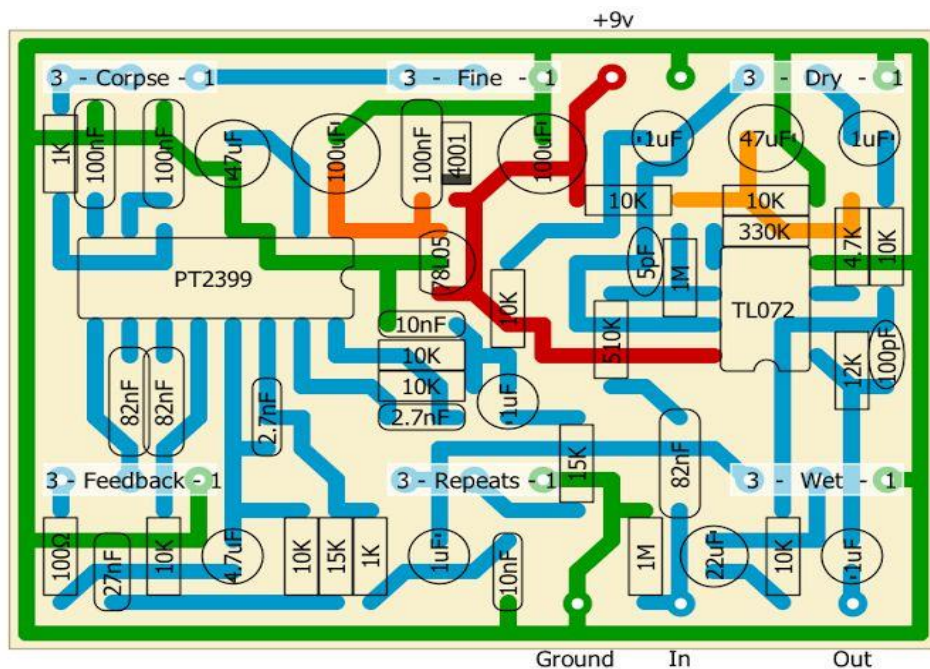
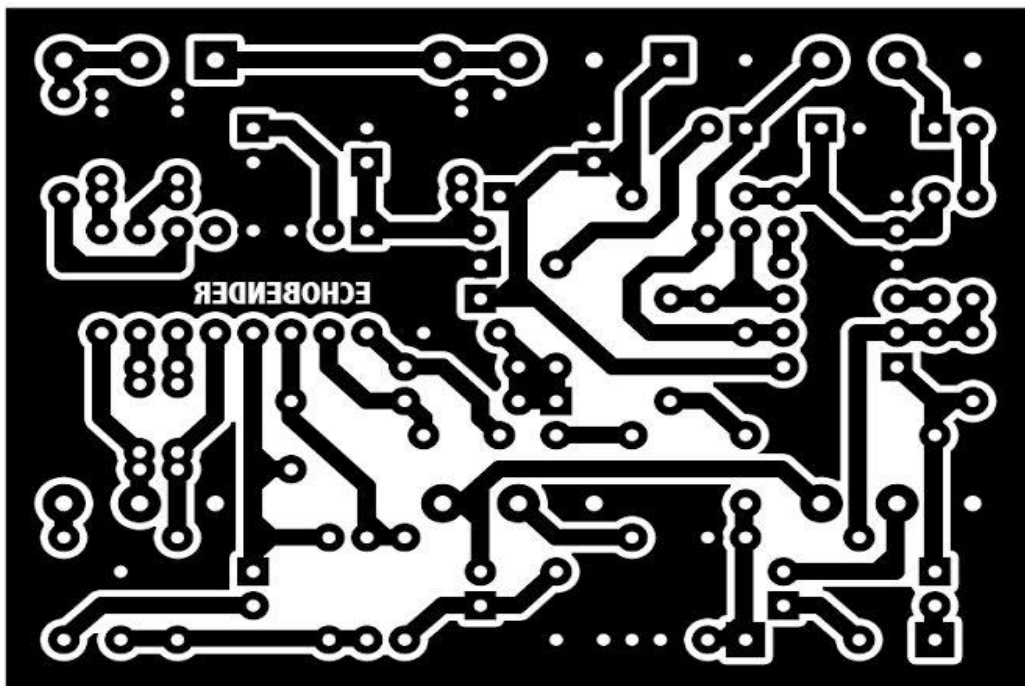
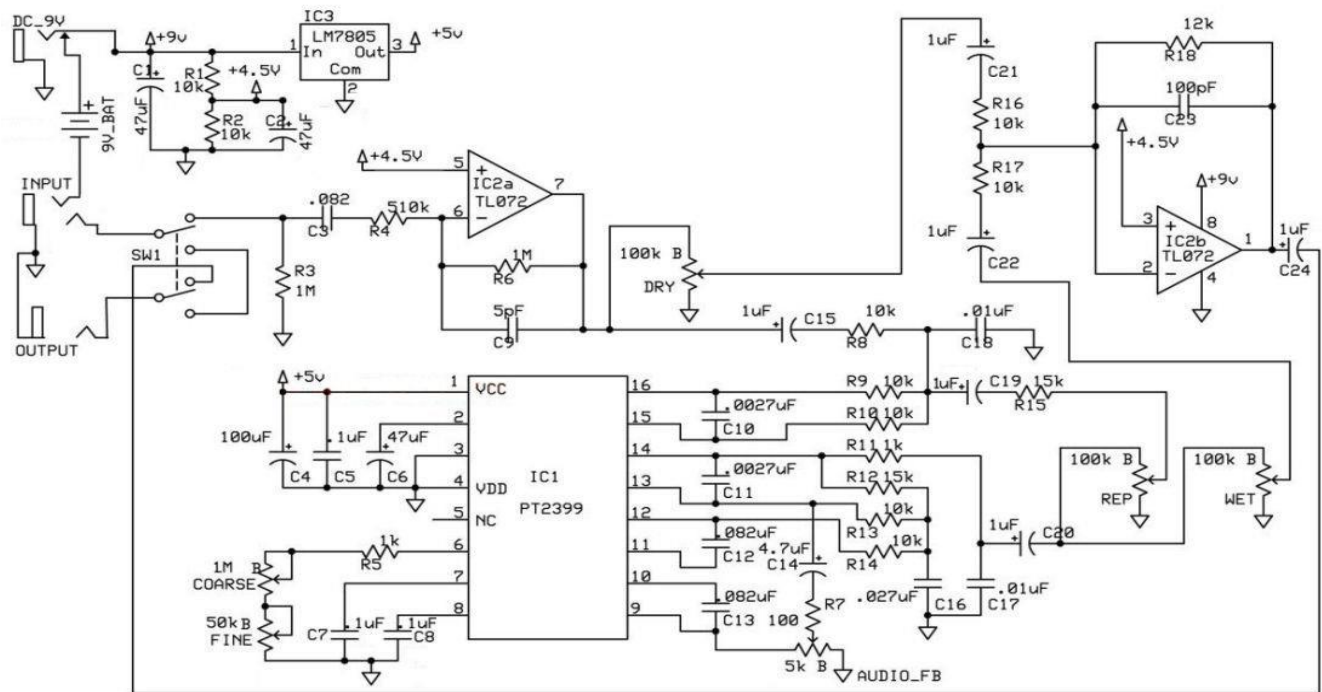
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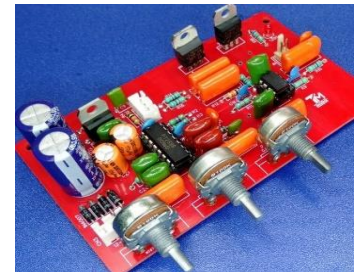
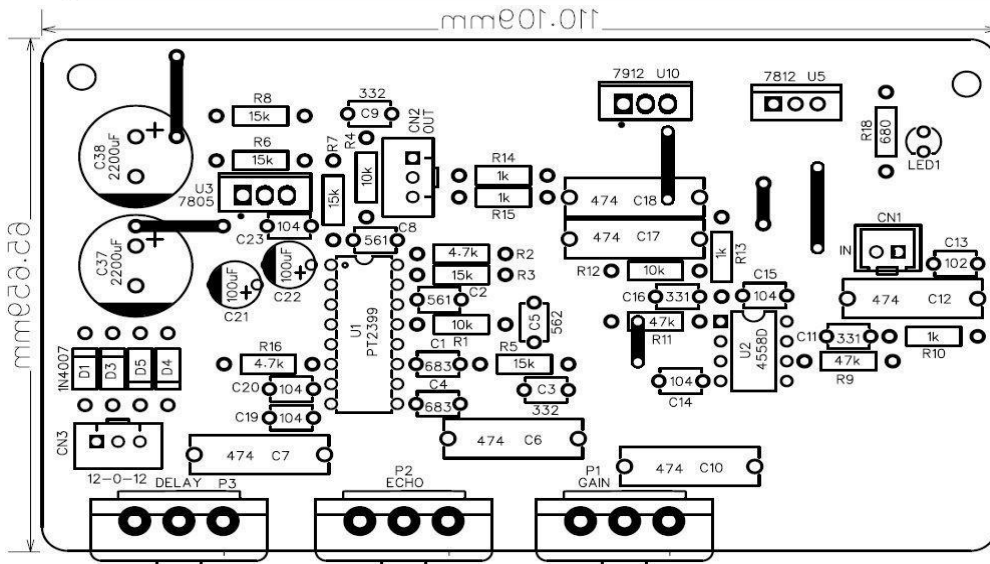
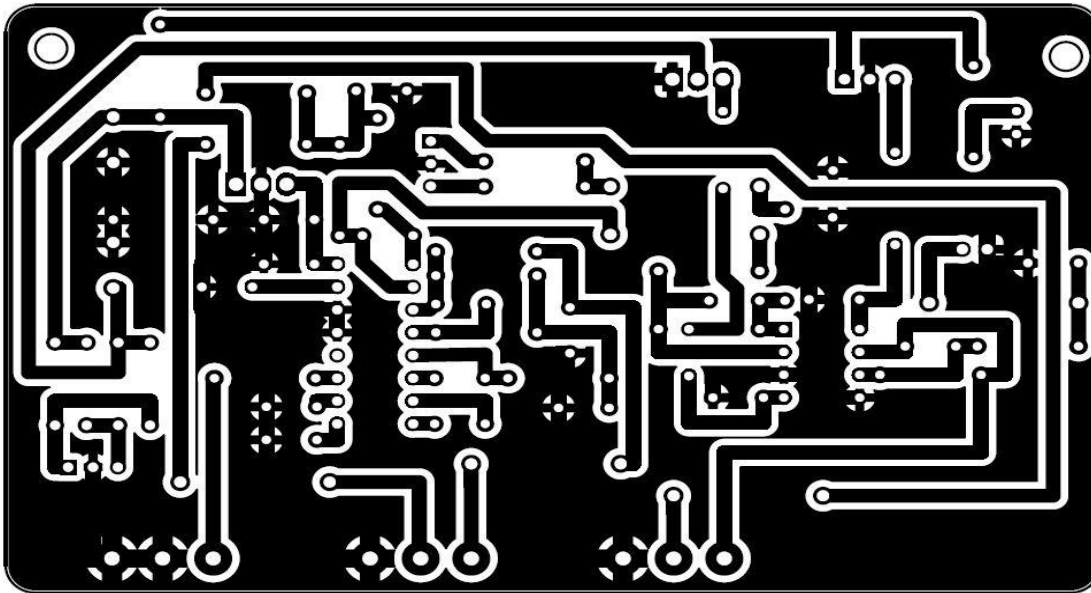
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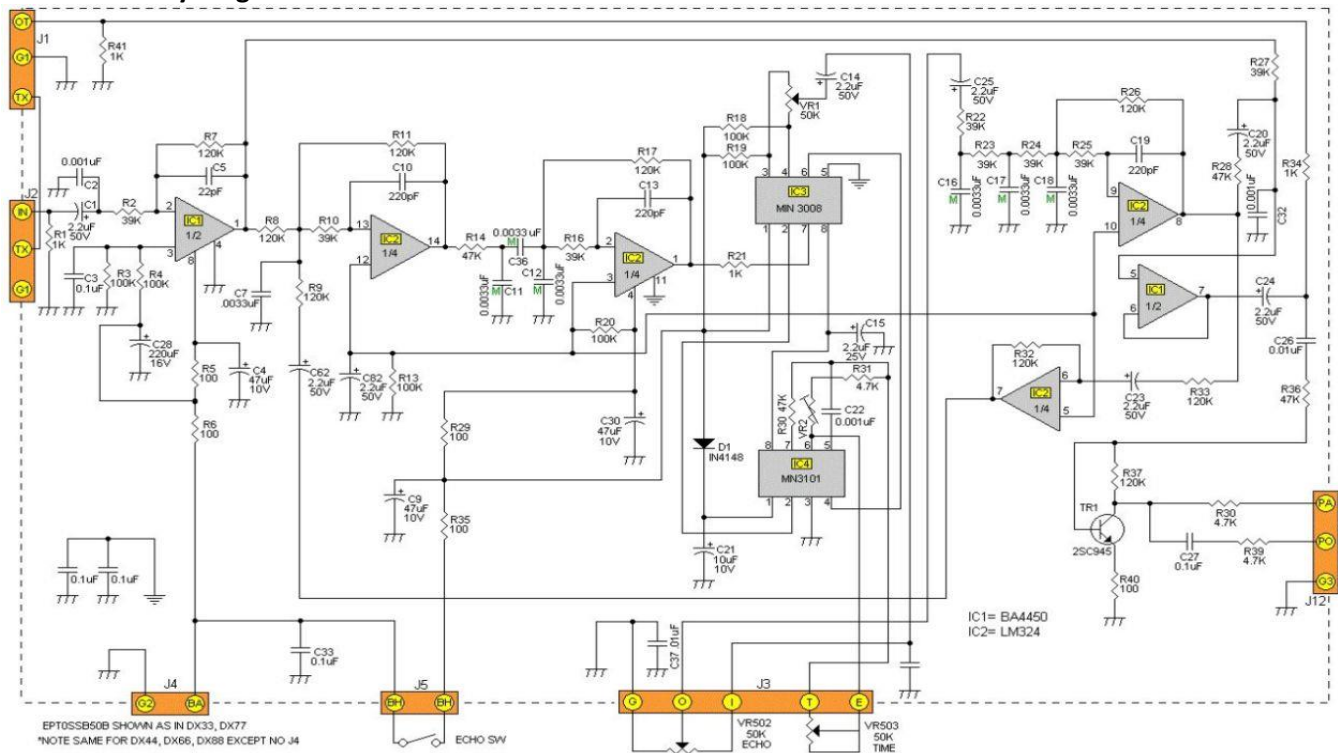


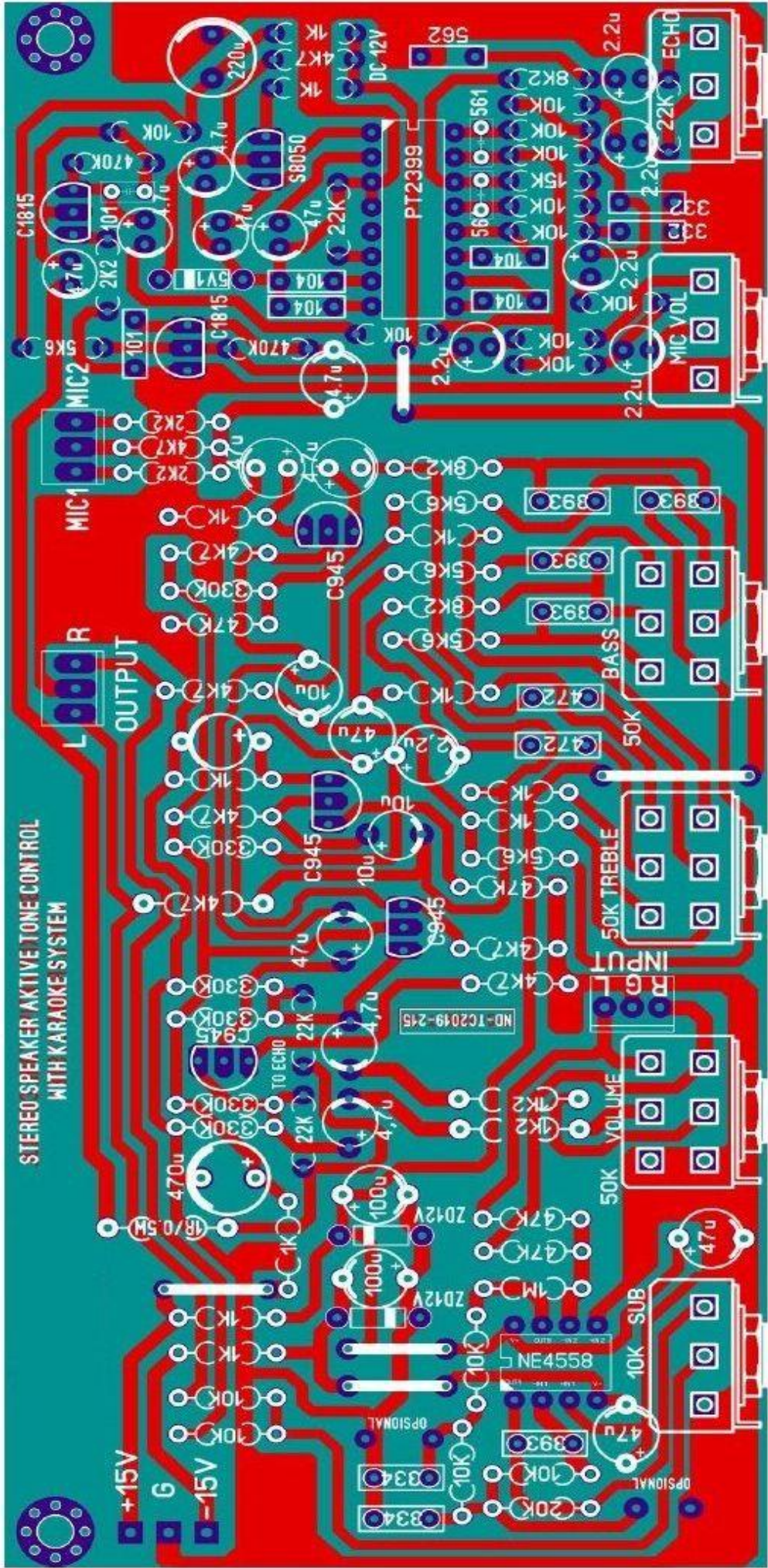


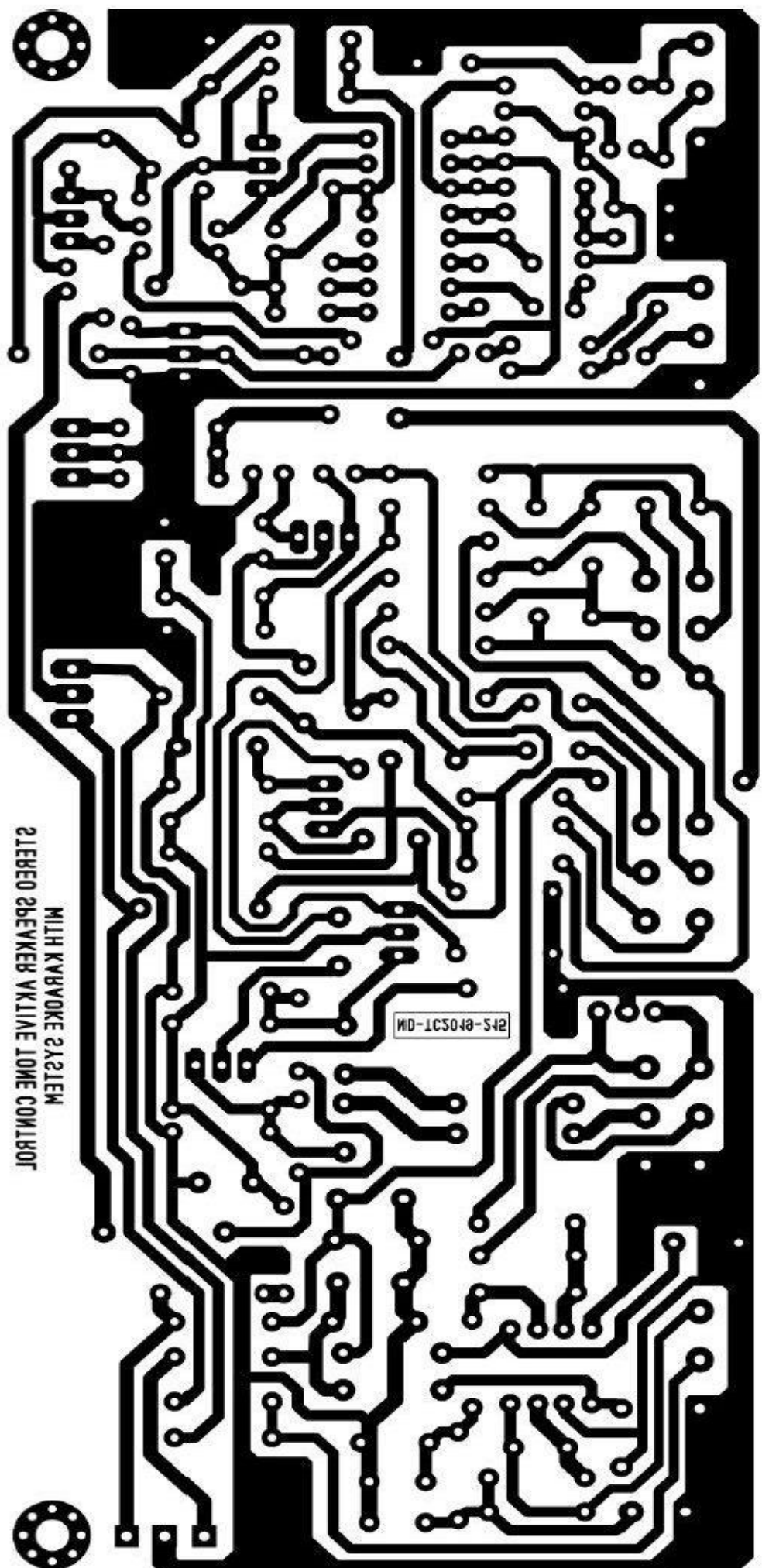
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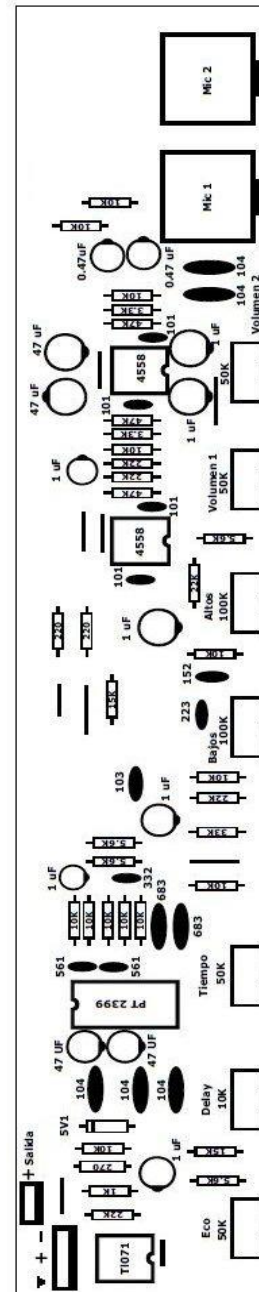
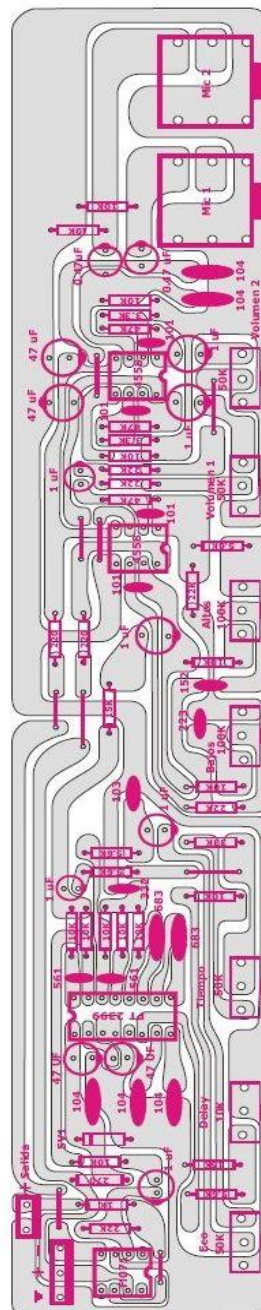
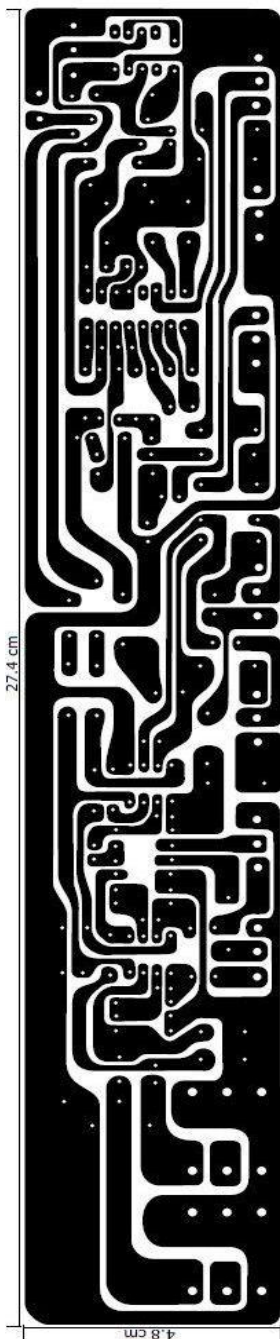
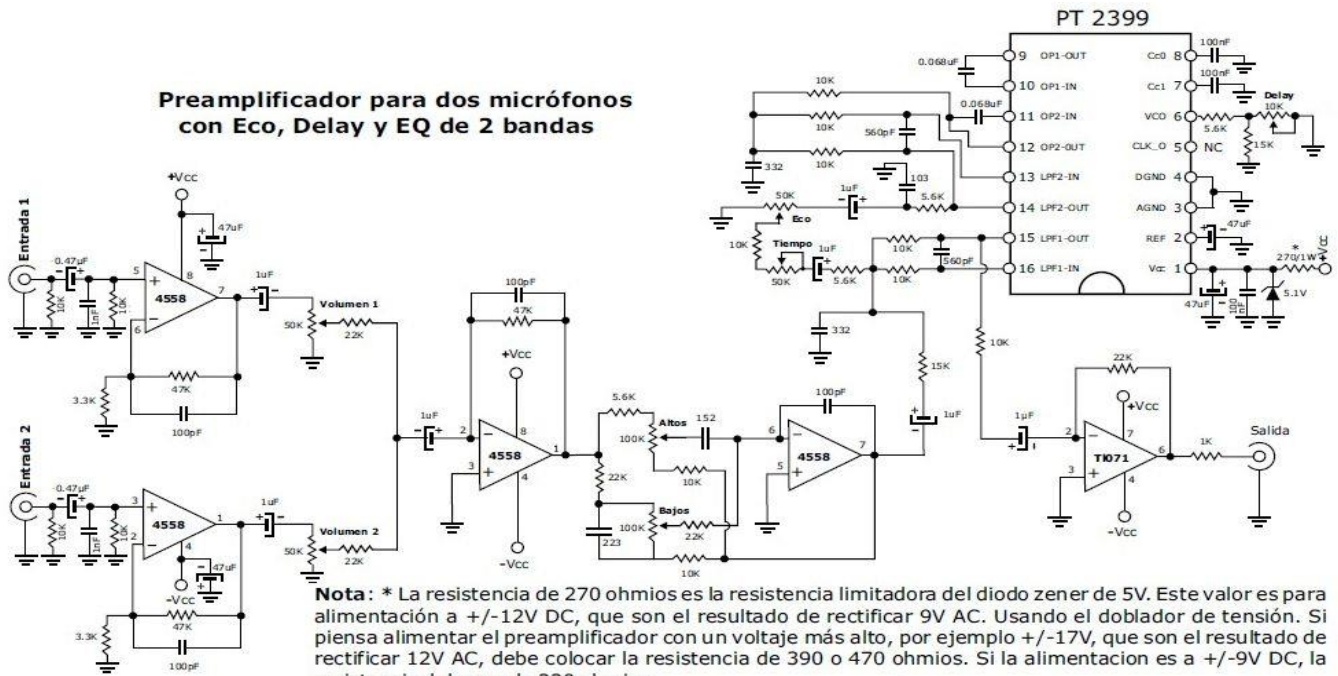


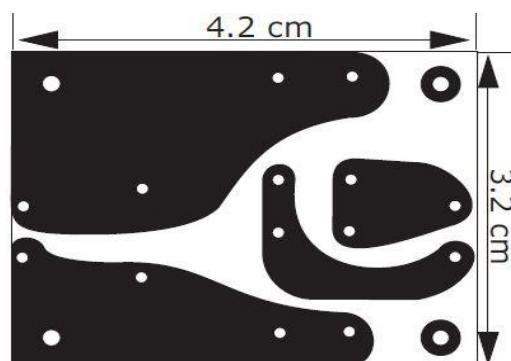
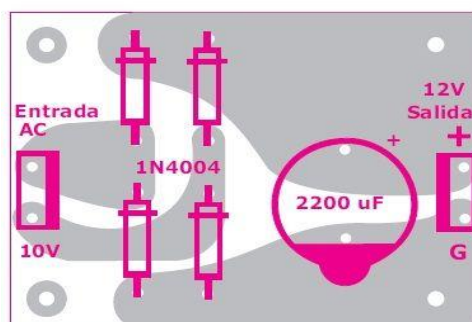
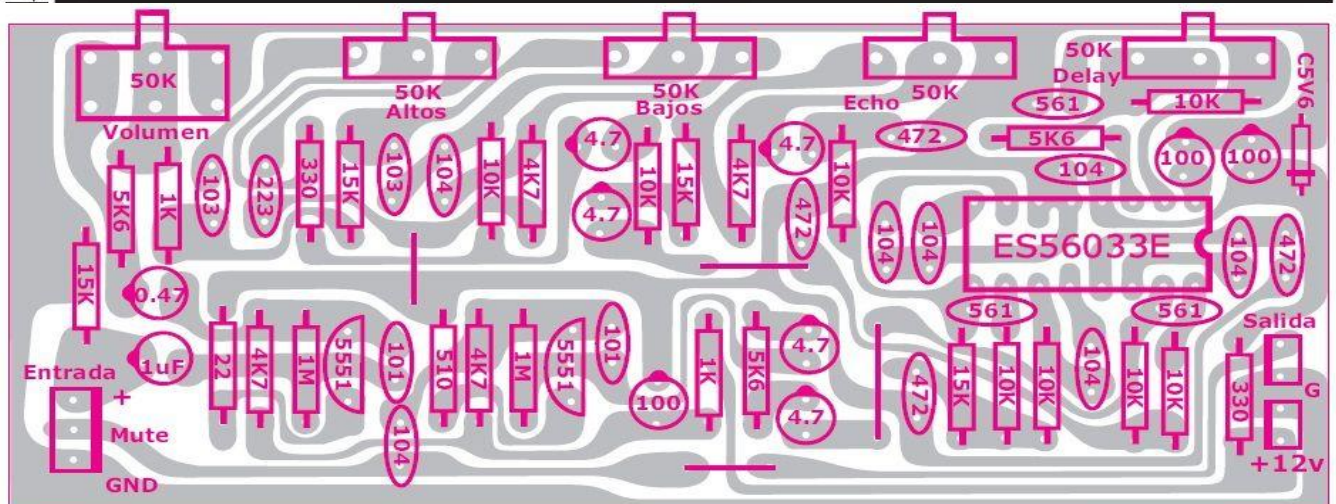
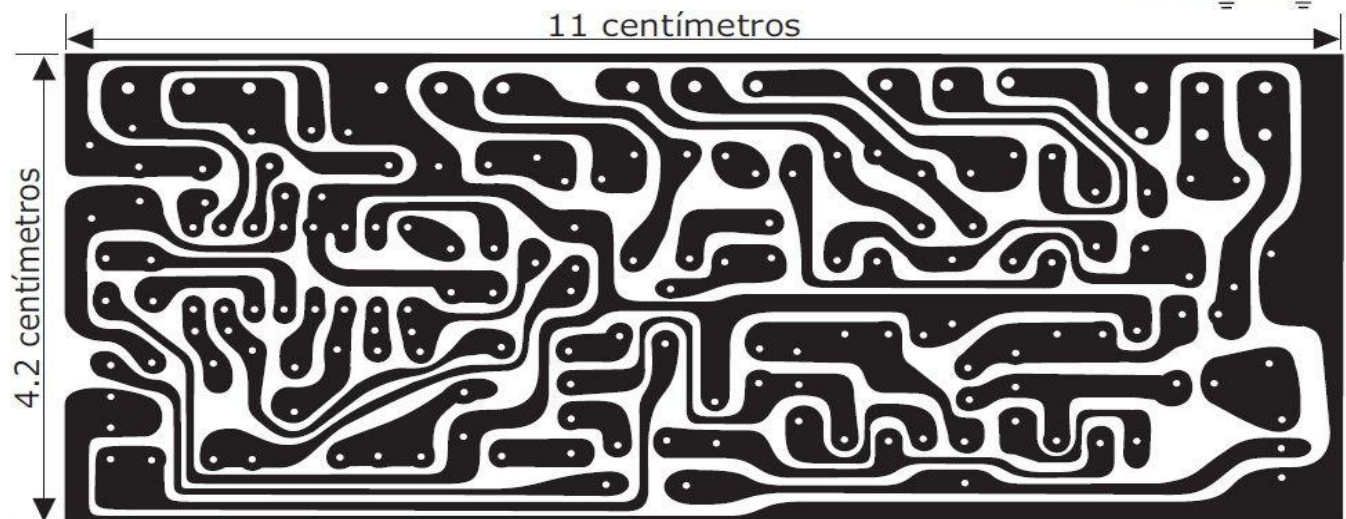
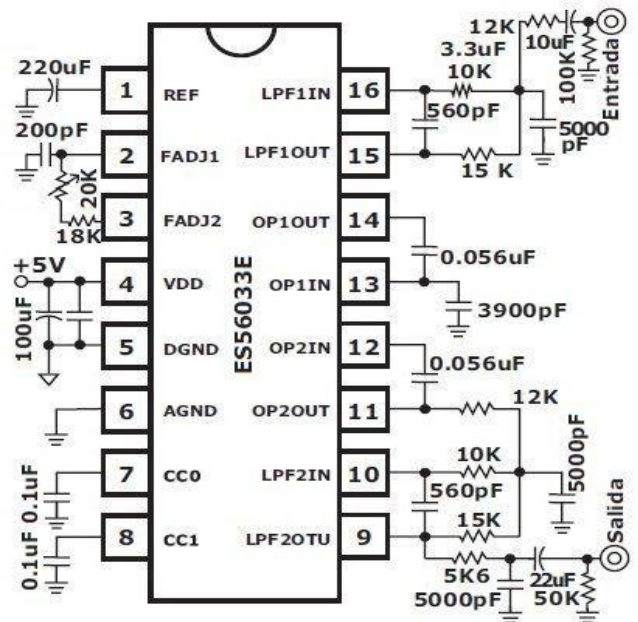
odyo diğer eko 18-01 MN3101 MIN3008











odyo diğer mikser 2 girişli 01-01

Q_1 - MPF102 ou BF245 - transistor de efeito de campo (disposições de terminais diferentes)

P_1, P_2 - 100 k Ω - Potenciômetros lineares deslizantes

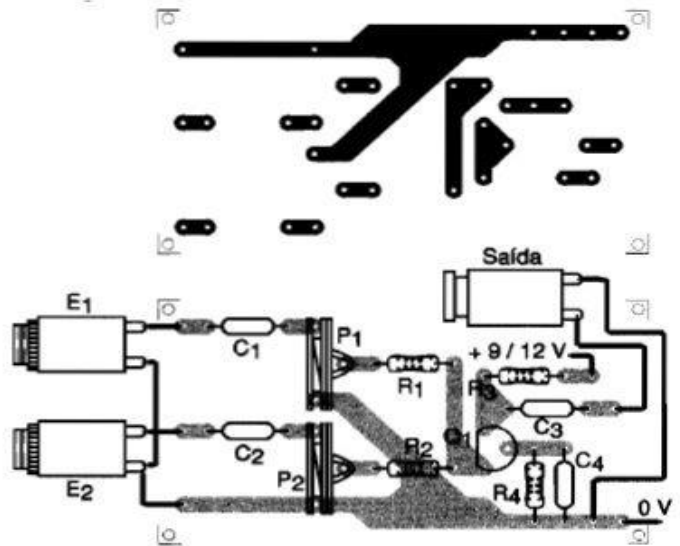
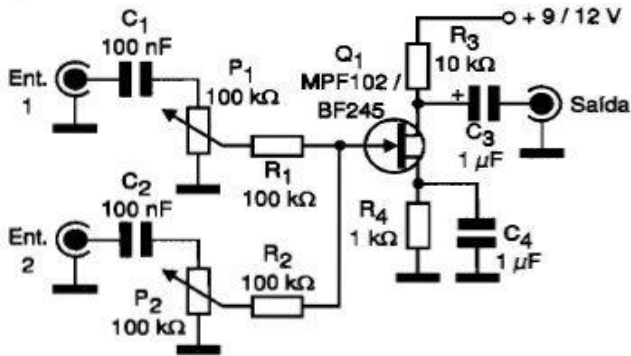
C_1, C_2 - 100 nF - capacitores de poliéster

C_3, C_4 - 1 μ F - capacitor de poliéster ou eletrolítico

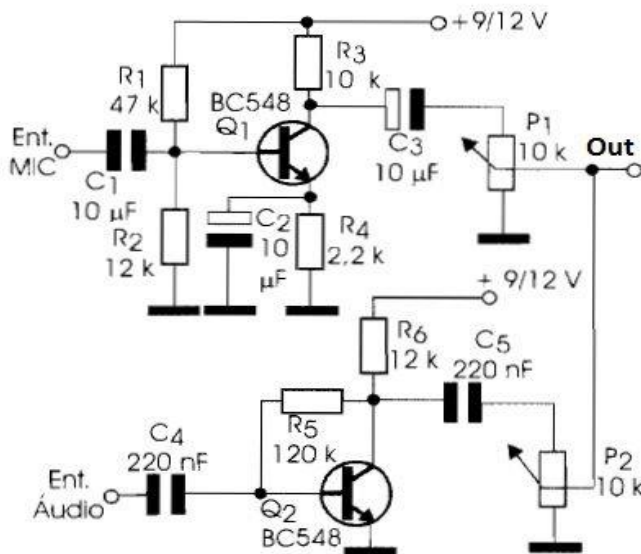
R_1, R_2 - 100 k Ω x 1/8 W - resistor - marrom, preto, amarelo

R_3 - 10 k Ω x 1/8 W - resistor - marrom, preto, laranja

R_4 - 1 k Ω x 1/8 W - resistor - marrom, preto,



odyo diğer mikser 2 girişli 02-01



Q_1, Q_2 - BC548

R_1 - 47 k Ω x 1/8 W

R_2 - 12 k Ω x 1/8 W

R_3 - 10 k Ω x 1/8 W

R_4 - 2,2 k Ω x 1/8 W

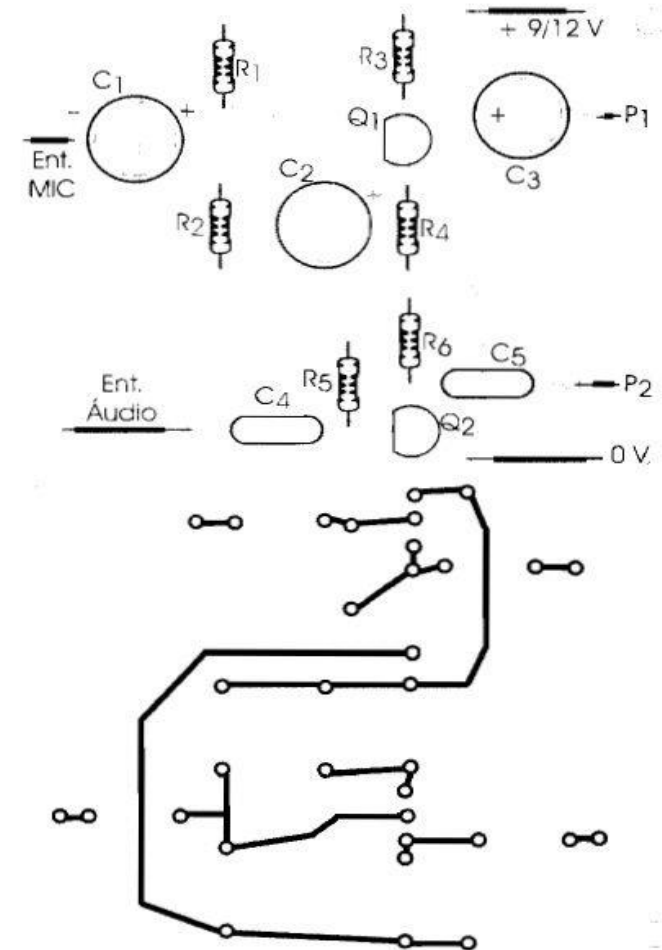
R_5 - 120 k Ω x 1/8 W

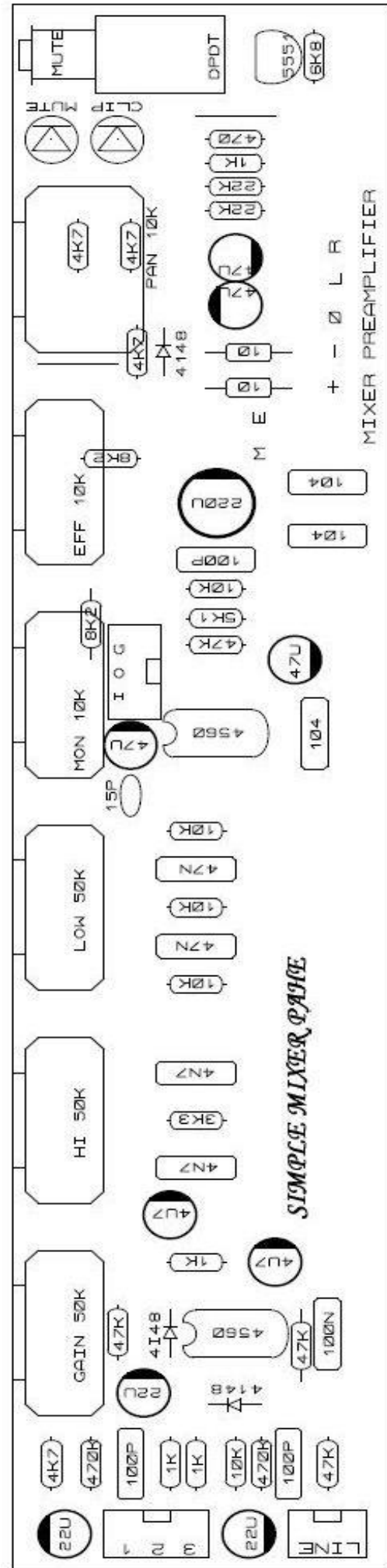
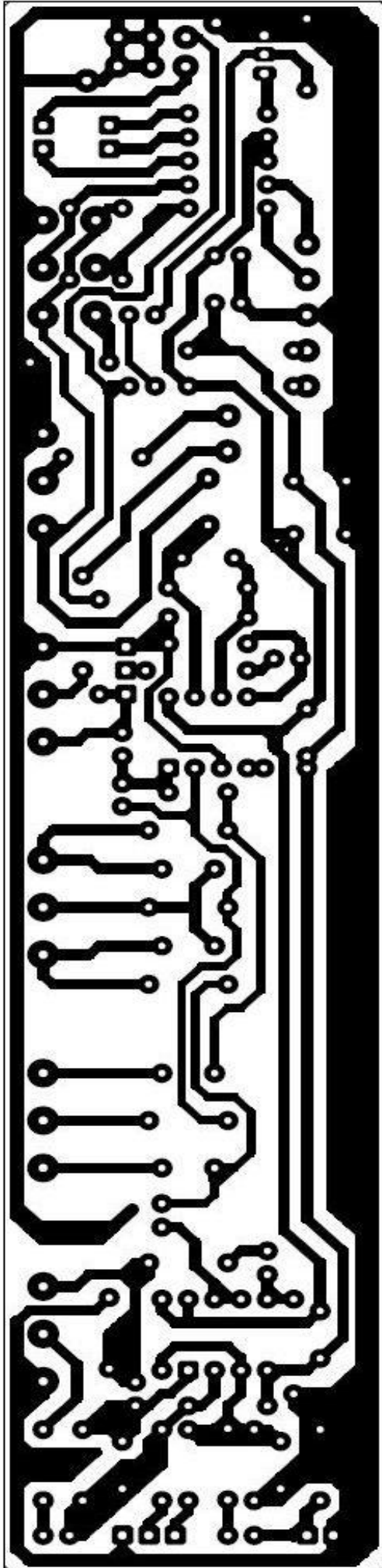
R_6 - 12 k Ω x 1/8 W

C_1, C_2, C_3 - 10 μ F x 16 V

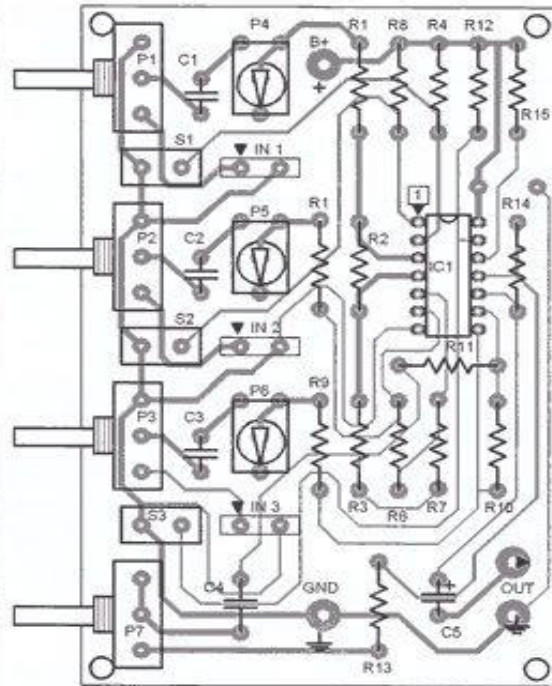
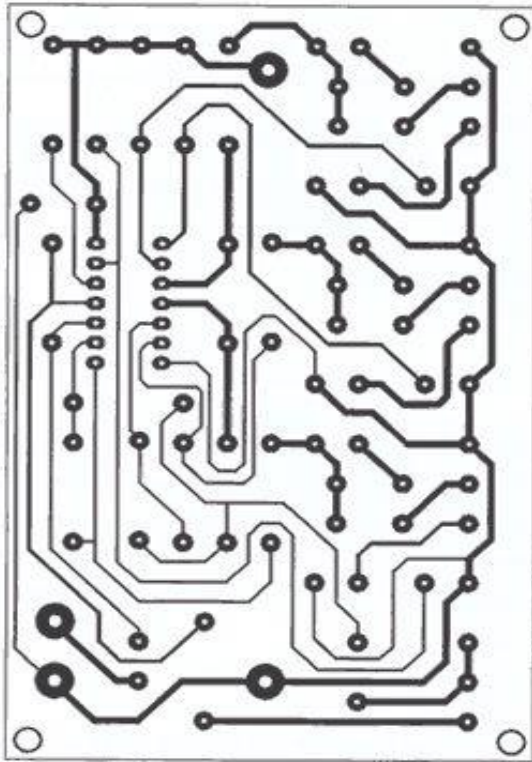
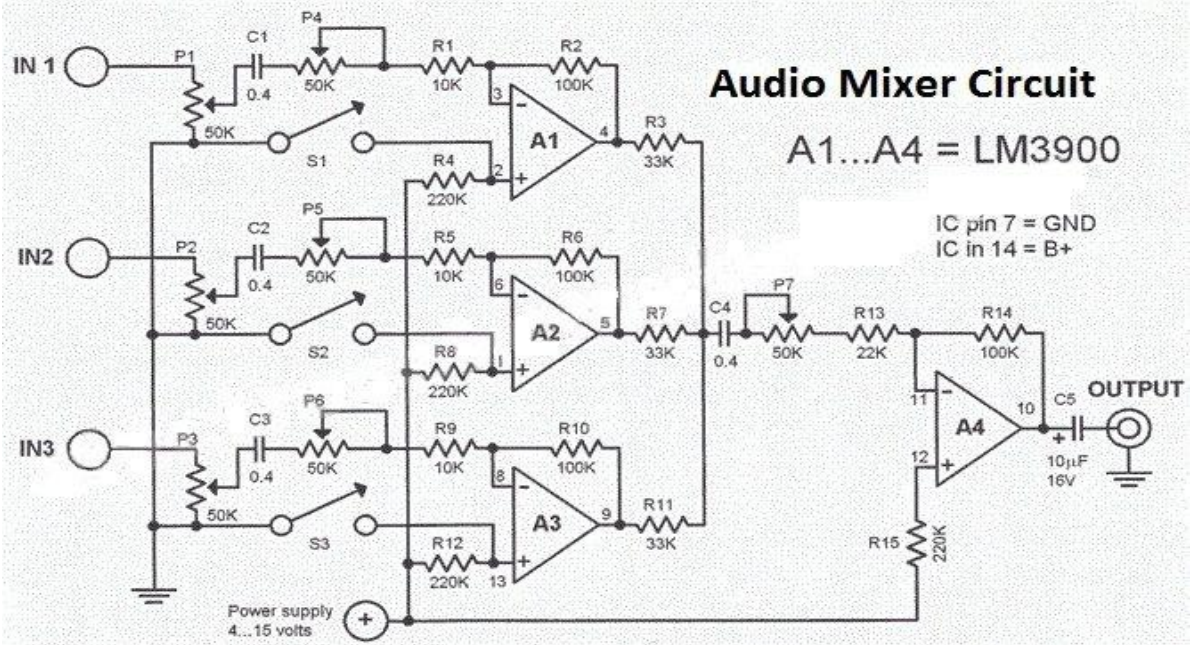
C_4, C_5 - 220 nF

P_1, P_2 - 10 k Ω - pot lin

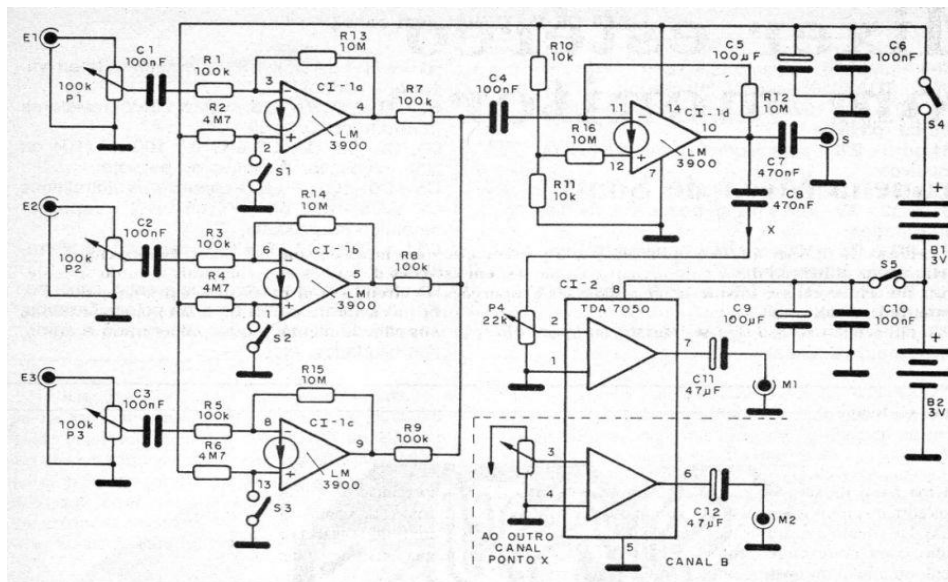


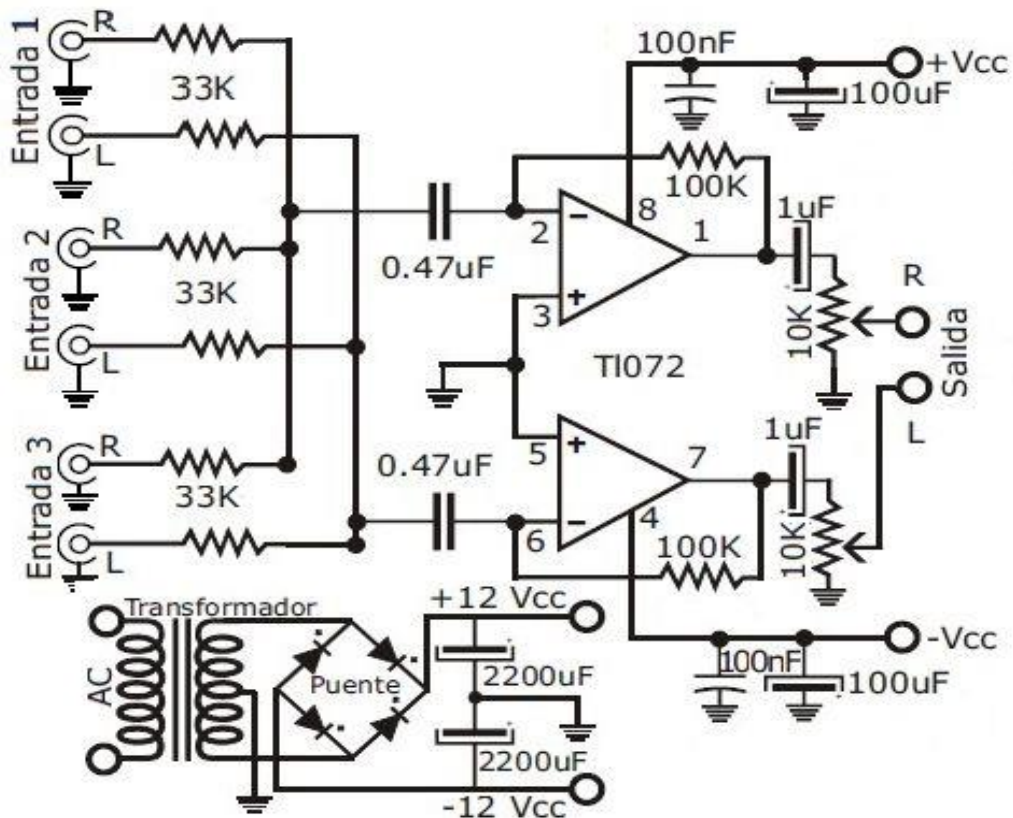
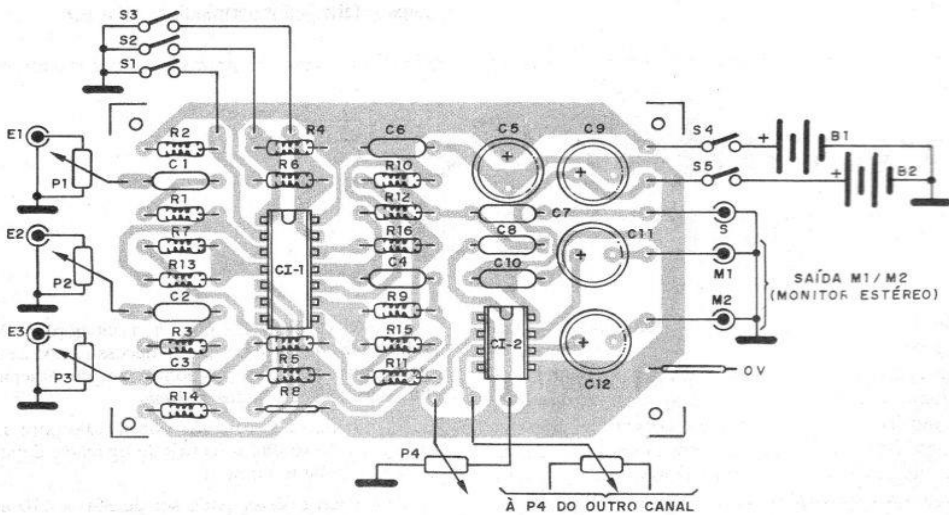
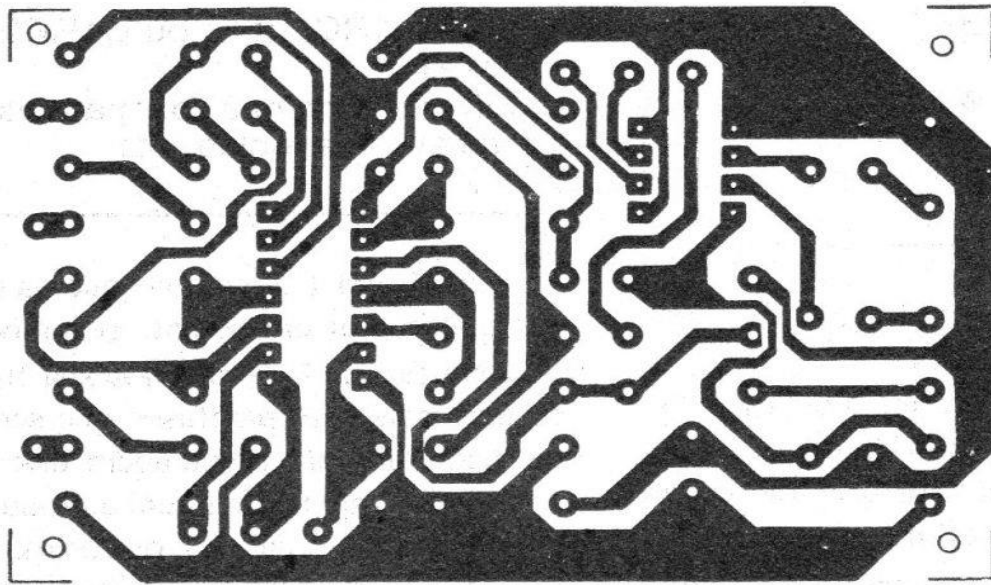


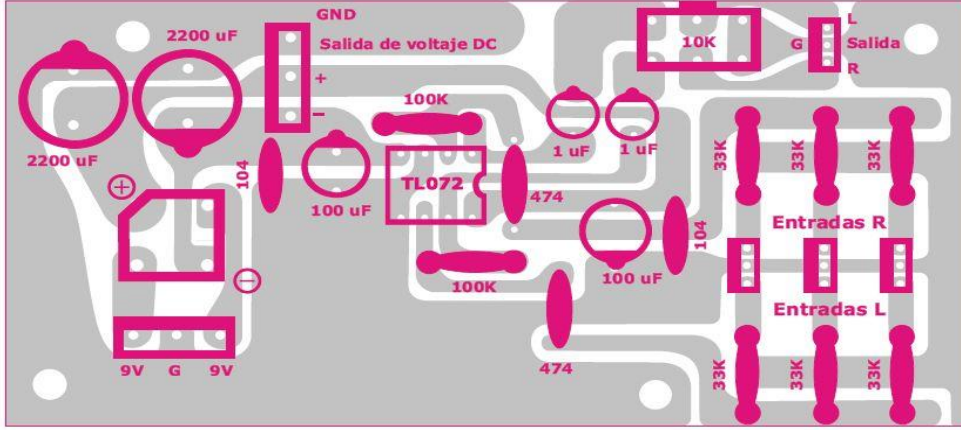
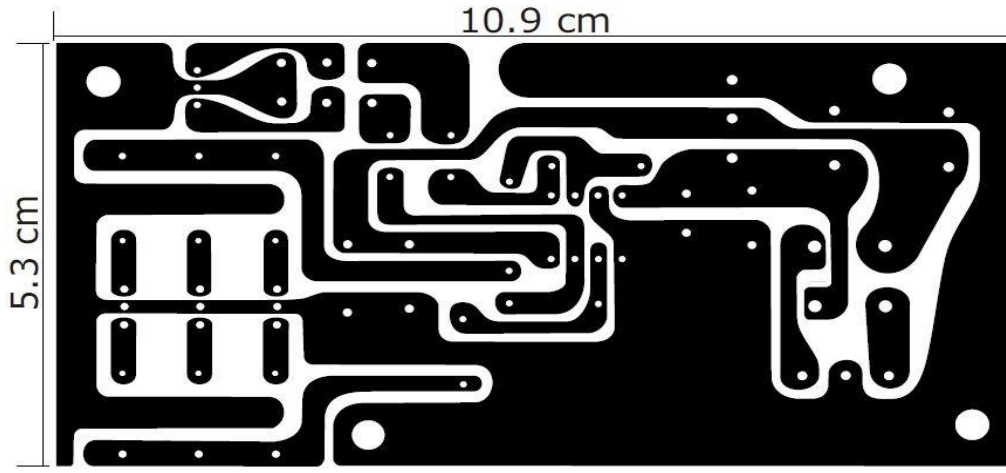
odyo diğer mikser 3 girişli 01-01



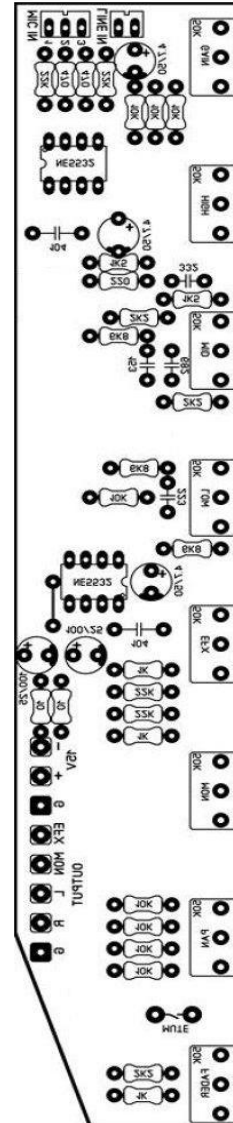
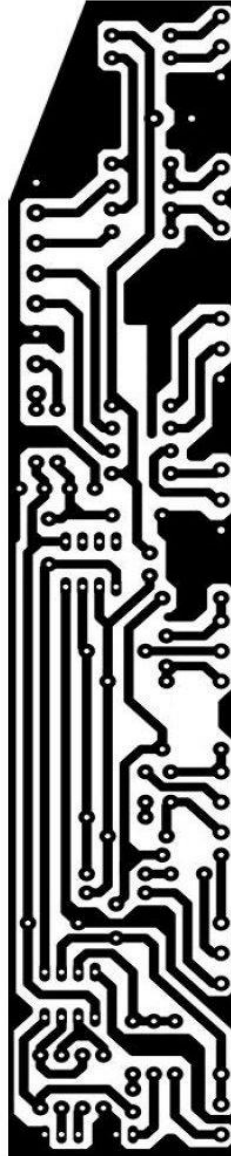
odyo diğer mikser 3 girişli 02-01



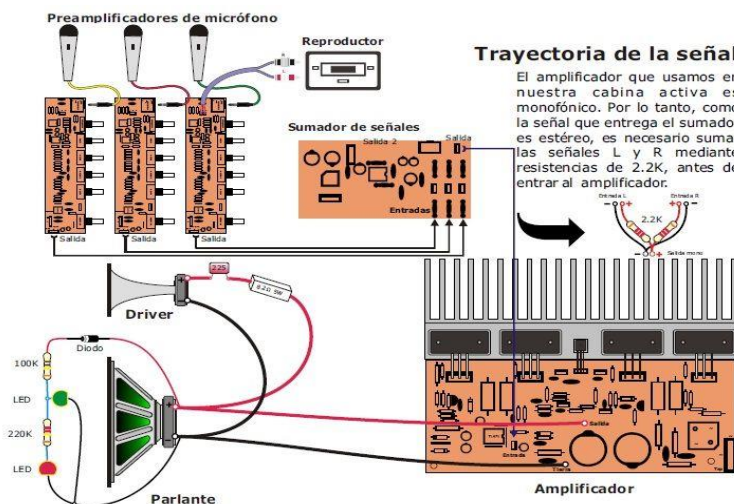
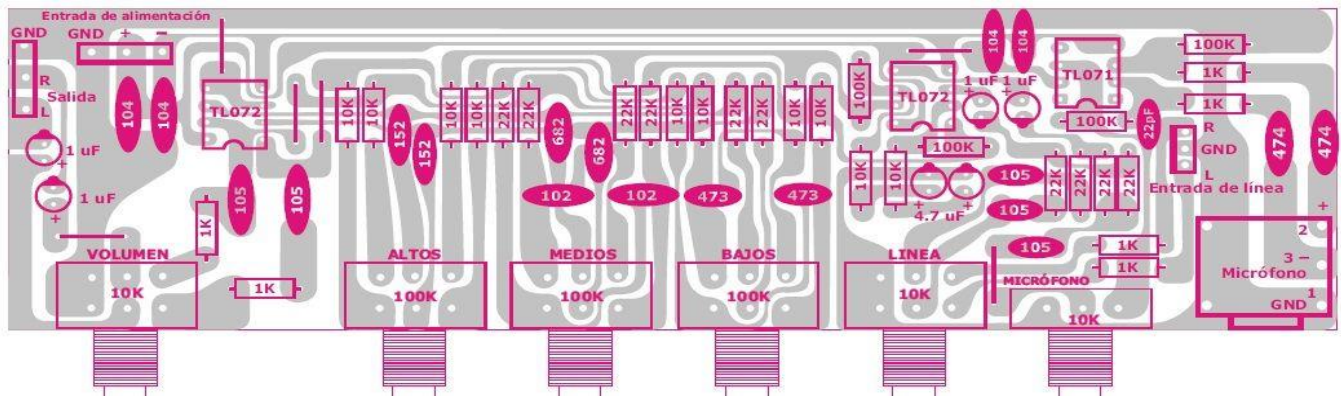




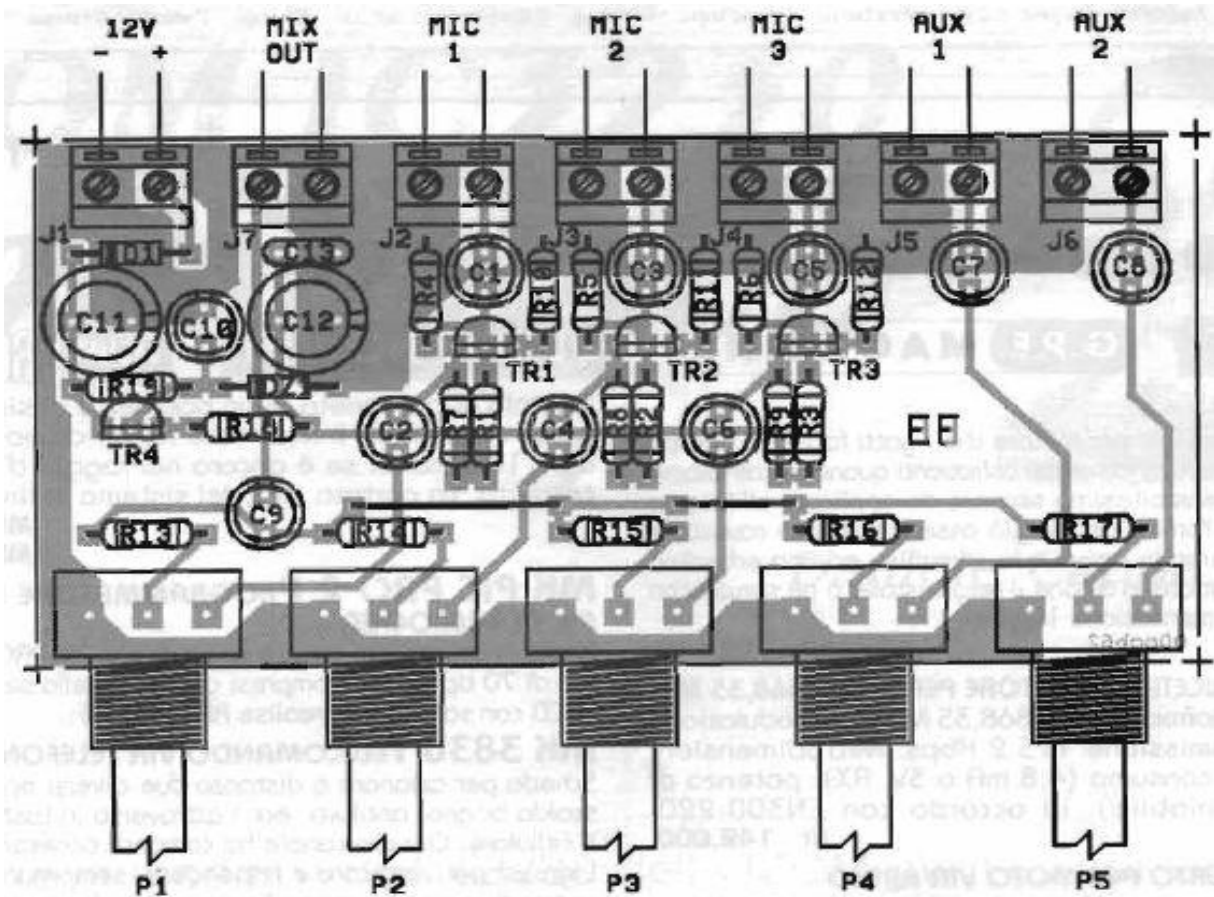
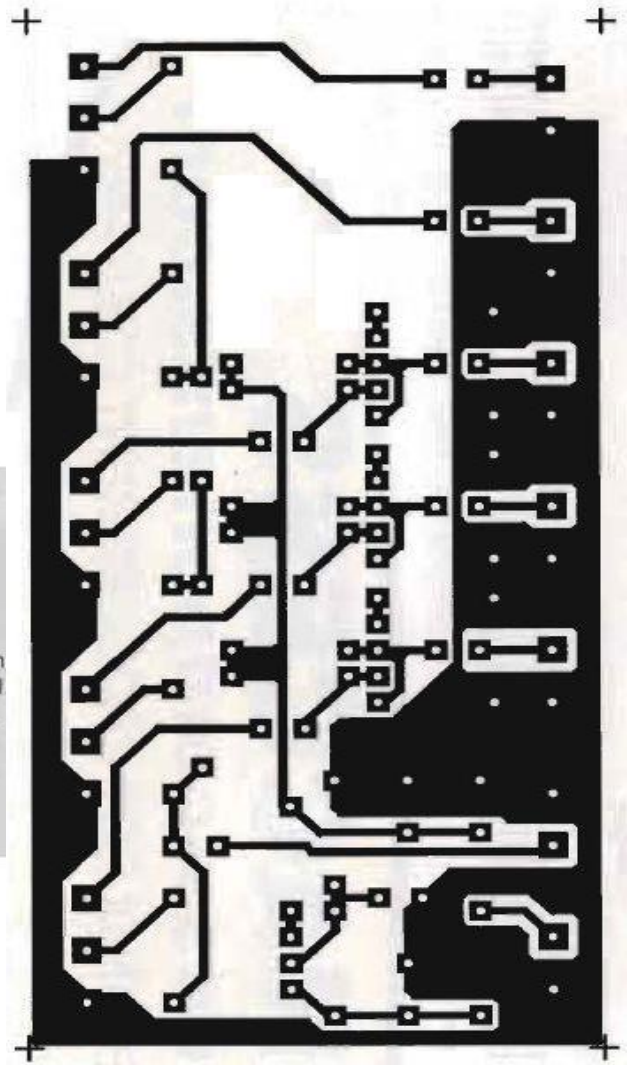
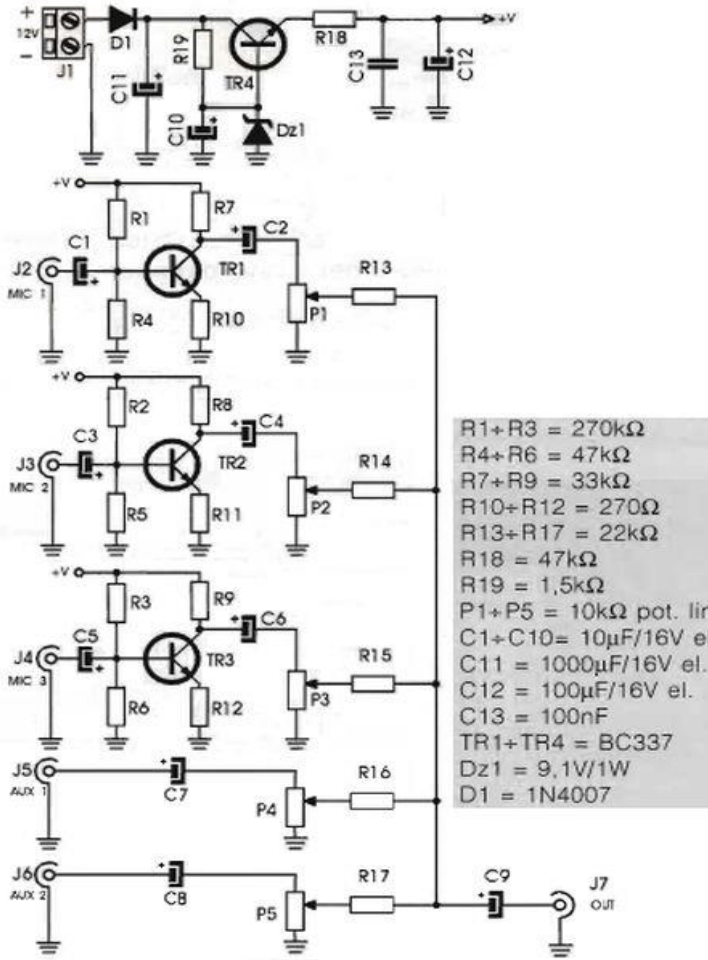
odyo diğer mikser 3 girişli 04-01



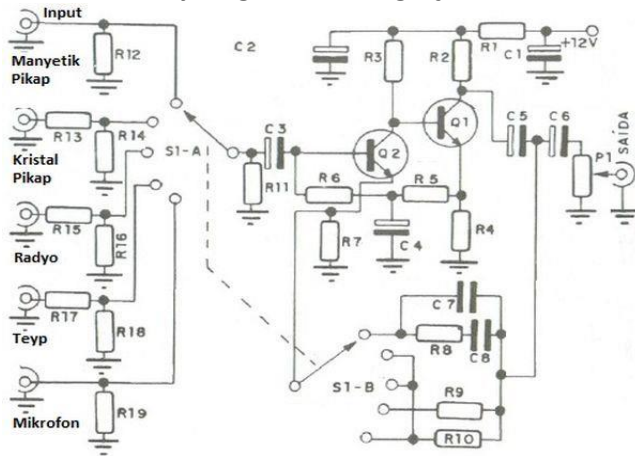
The diagram shows a stereo amplifier circuit. It starts with two input channels: 'Microfono' (Microphone) and 'Linea' (Line). Each channel has a volume control potentiometer. The microphone input is connected to a TL071 op-amp configured as a pre-amplifier. The line inputs are connected to a pair of TL072 op-amps. The circuit includes frequency response controls labeled 'Bajos' (Bass), 'Medios' (Mids), and 'Altos' (Treble) for both channels. The output of each channel is connected to a speaker through a 16Ω speaker symbol. The circuit is powered by a 9V battery (Vcc) and ground (-Vcc).



odyo diğer mikser 5 girişli 01-01



odyo diğer mikser 5 girişli 02-01



Semicondutores

Q1 e Q2 - BC549B - transistor NPN

Resistores (CR-25 Philips Components, 1/3W x 5%)

R1 - 3,9k ohms (laranja, branco, vermelho)
R2 - 10k ohms (marrom, preto, laranja)
R3 - 220k ohms (vermelho, vermelho, amarelo)
R4 - 1,5k ohms (preto, verde, vermelho)
R5 e R6 - 150k ohms (marrom, verde, amarelo)
R7 - 680 ohms (azul, cinza, marrom)
R8 - 82k ohms (cinza, vermelho, laranja)
R9 - 27k ohms (vermelho, violeta, laranja)

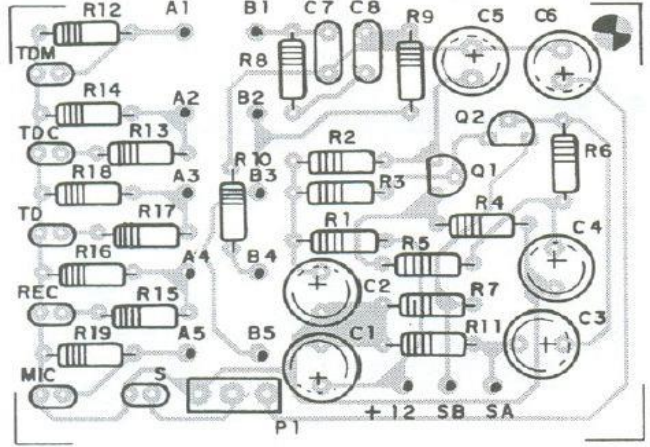
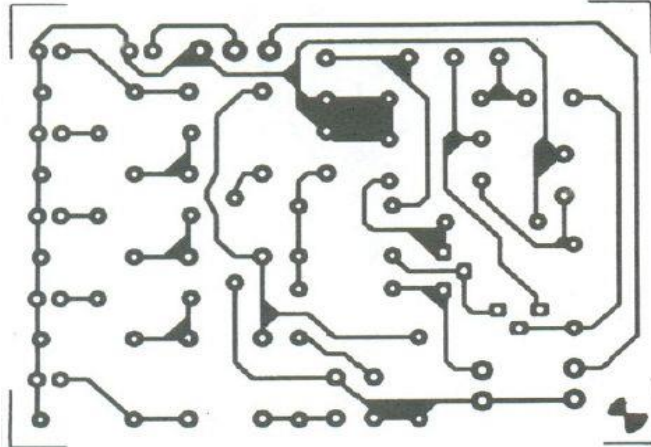
R10 e R11 - 68k ohms (azul, cinza, laranja)
R12, R14, R16, R18 e R19 - 39k ohms (laranja, branco, laranja)
R13 - 1M ohms (marrom, preto, verde)
R15 e R17 - 470k ohms (amarelo, violeta, amarelo)
P1 - 10k ohms - potenciômetro logarítmico

Capacitores

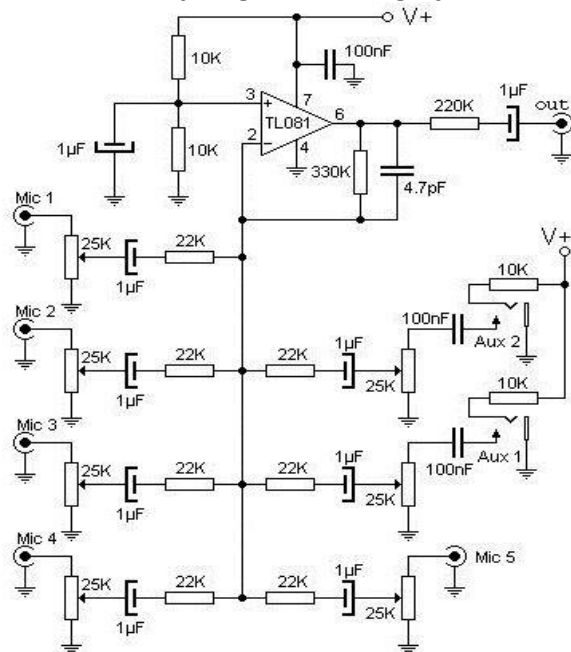
C1 e C2 - 100 μ F x 16V - eletrolítico
C3, C4, C5 e C6 - 10 μ F x 16V - eletrolítico (série 037 da Philips)
C7 - 1,2 nF - cerâmico ou poliéster
C8 - 3,9 nF - cerâmico ou poliéster

Diversos

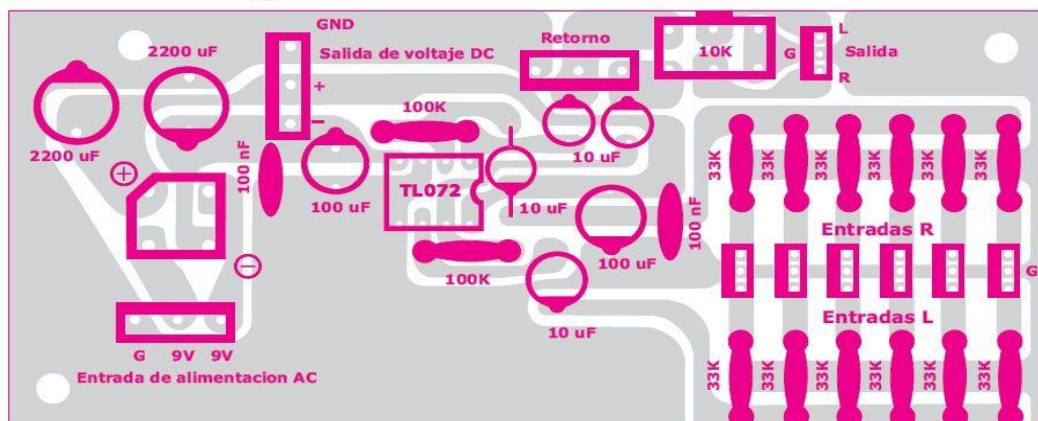
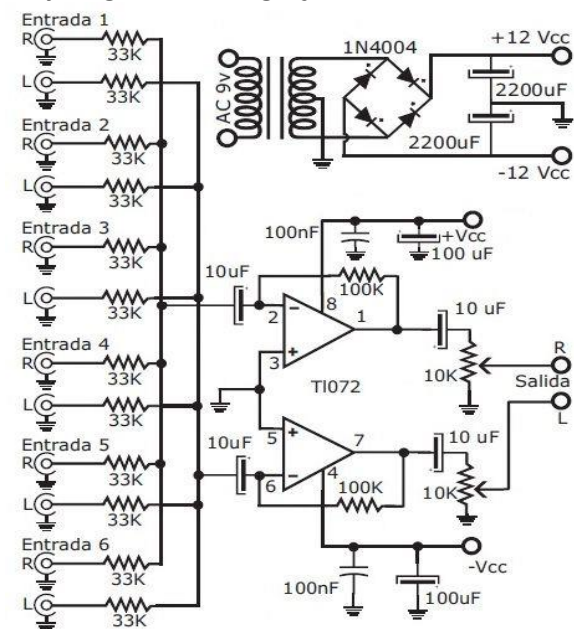
S1 - chave de 2 pólos x 5 posições
Tomadas RCA, placa de circuito impresso, solda, etc.

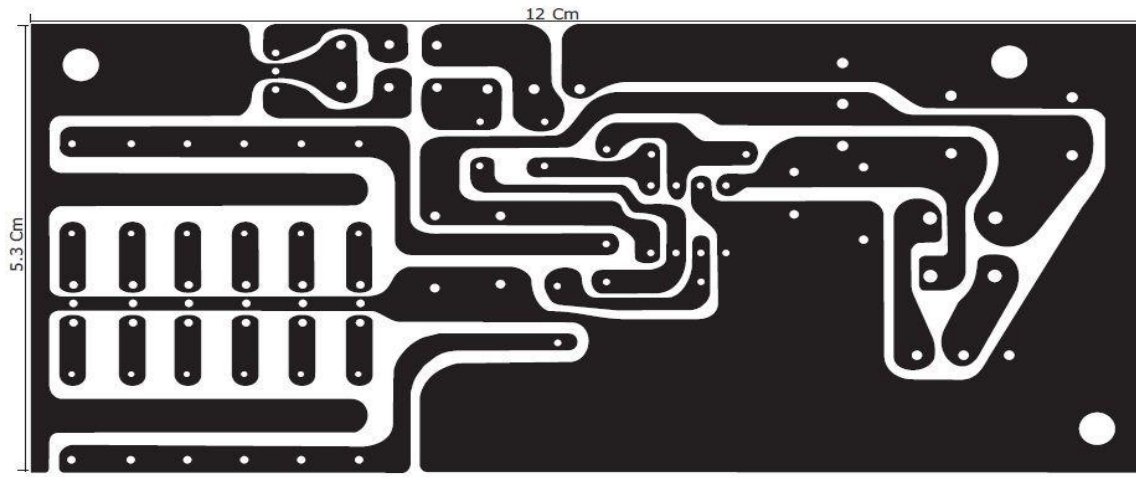


odyo diğer mikser 5 girişli 03-01

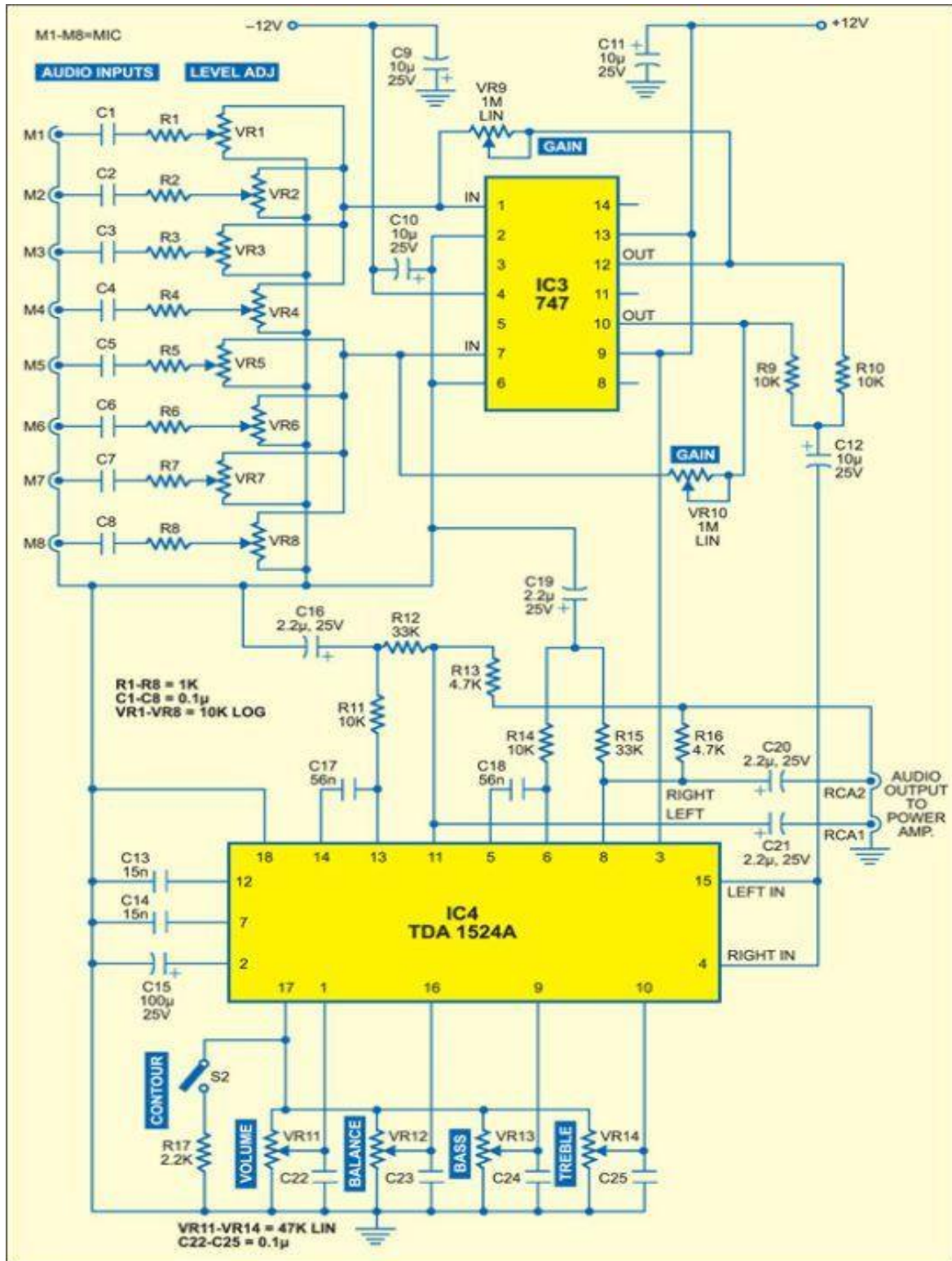


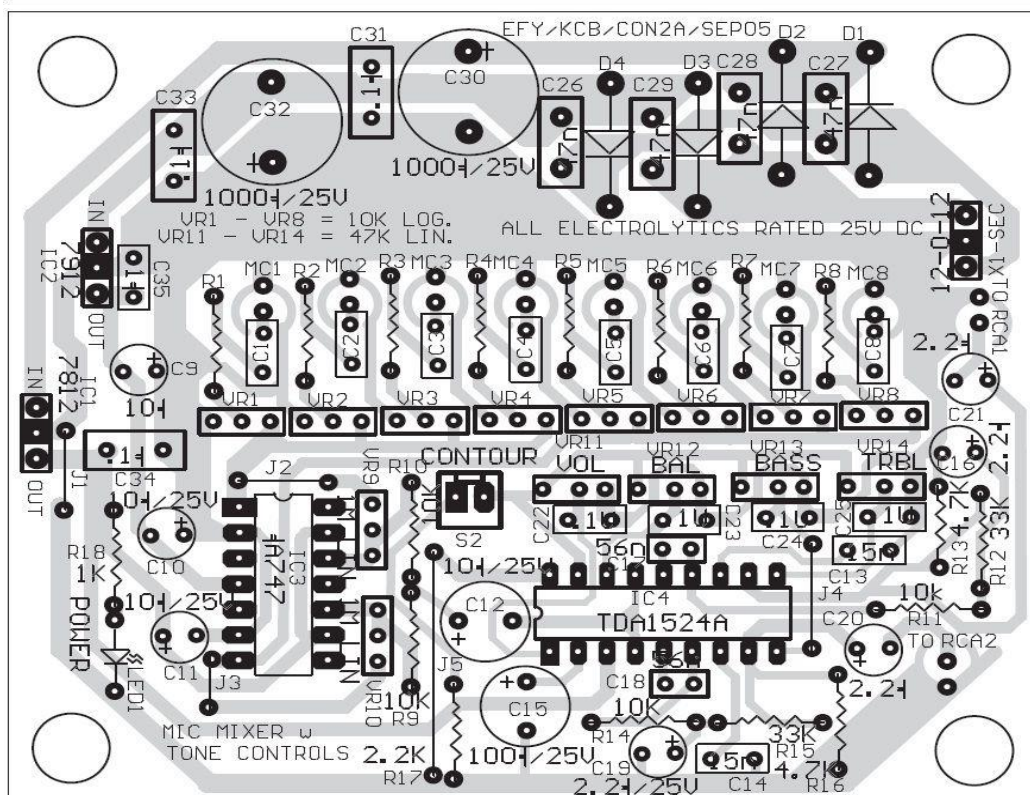
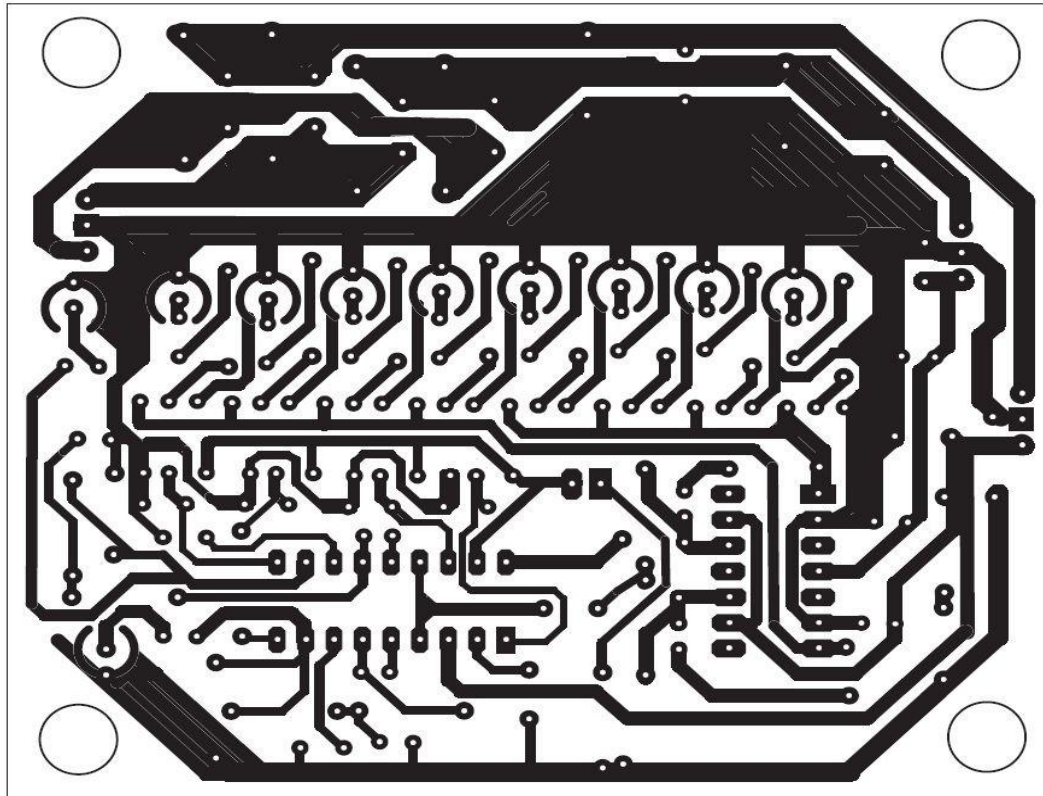
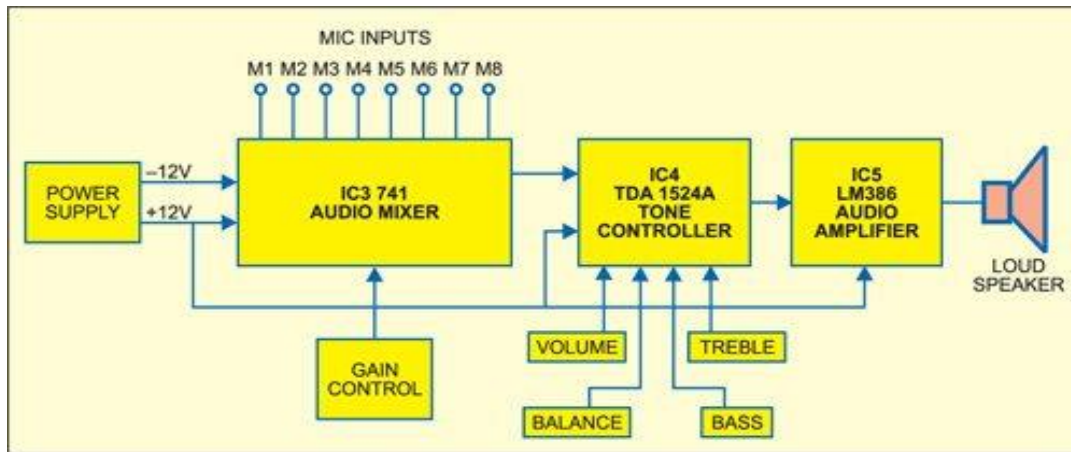
odyo diğer mikser 6 girişli 01-01

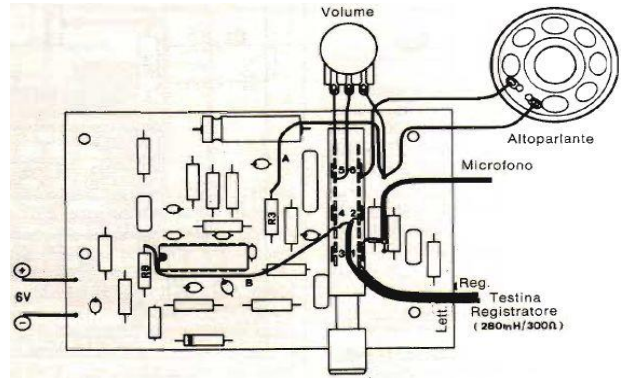
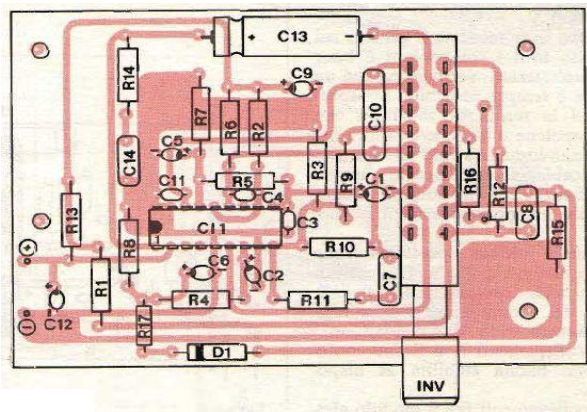




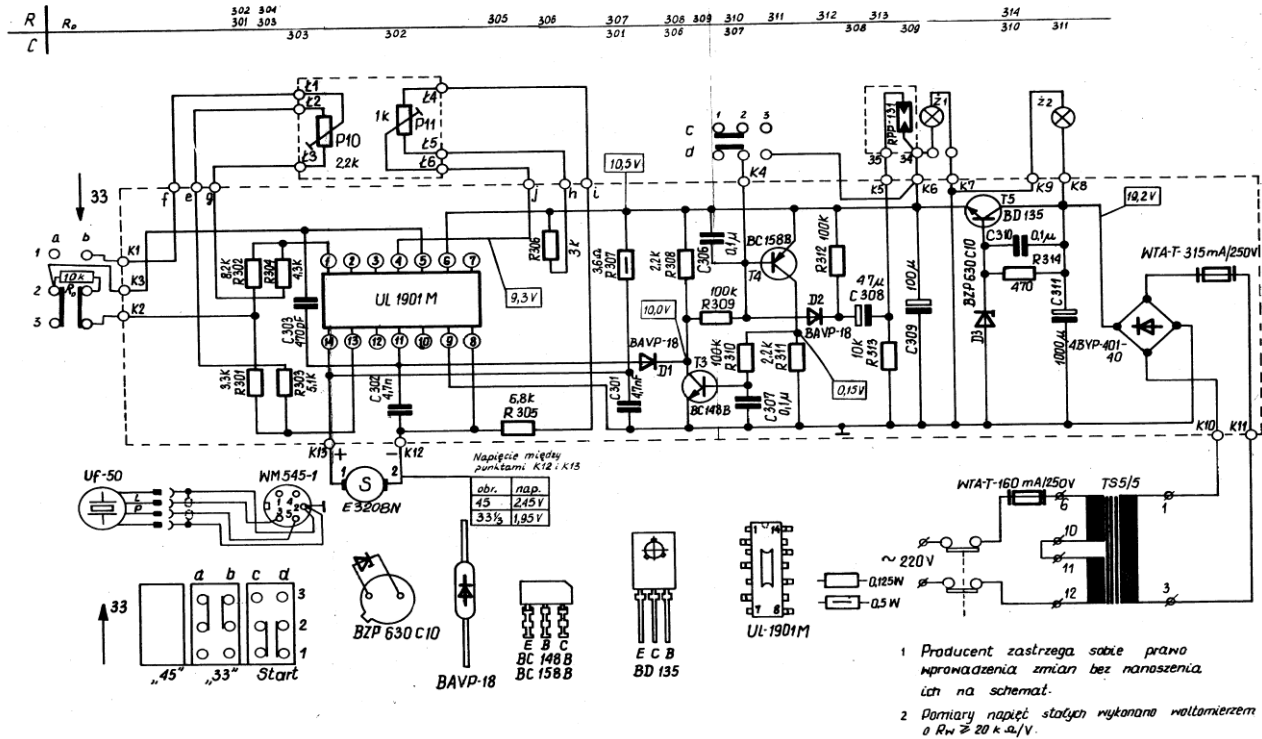
odyo diğer mikser 8 girişli 01-01



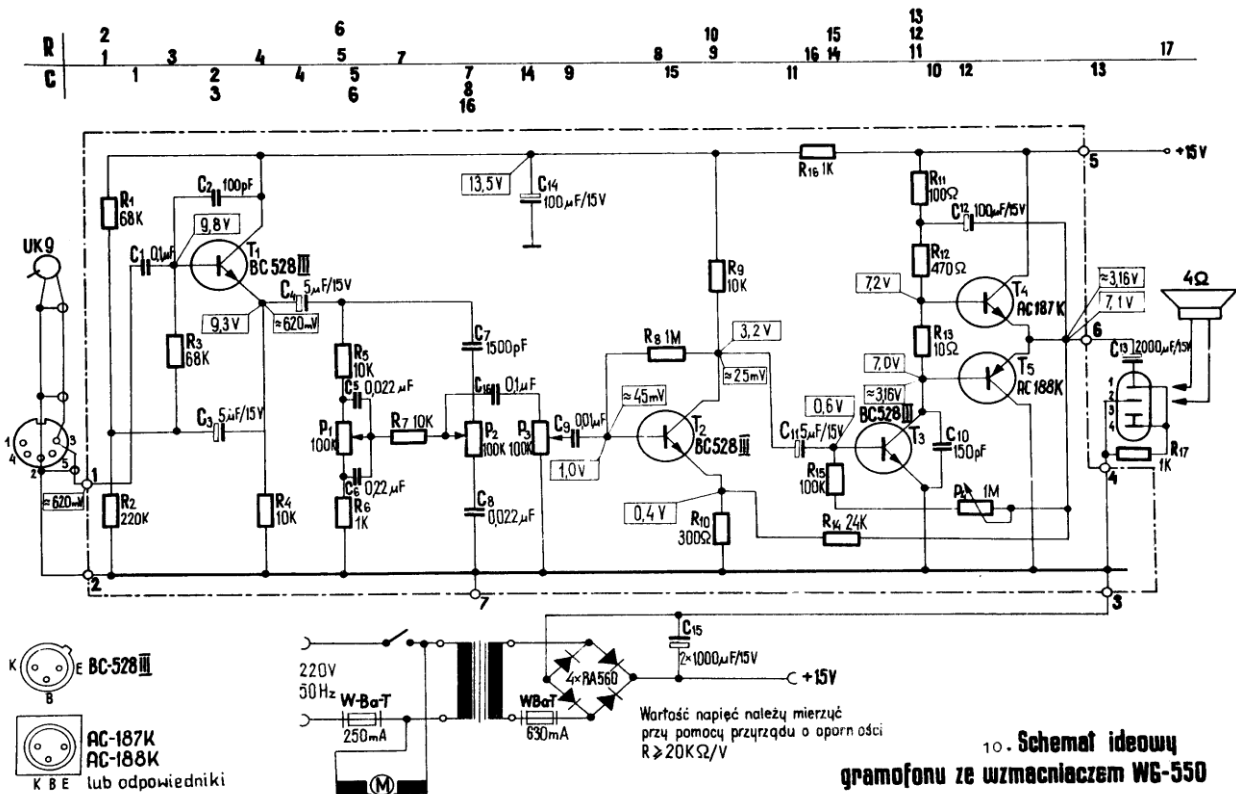




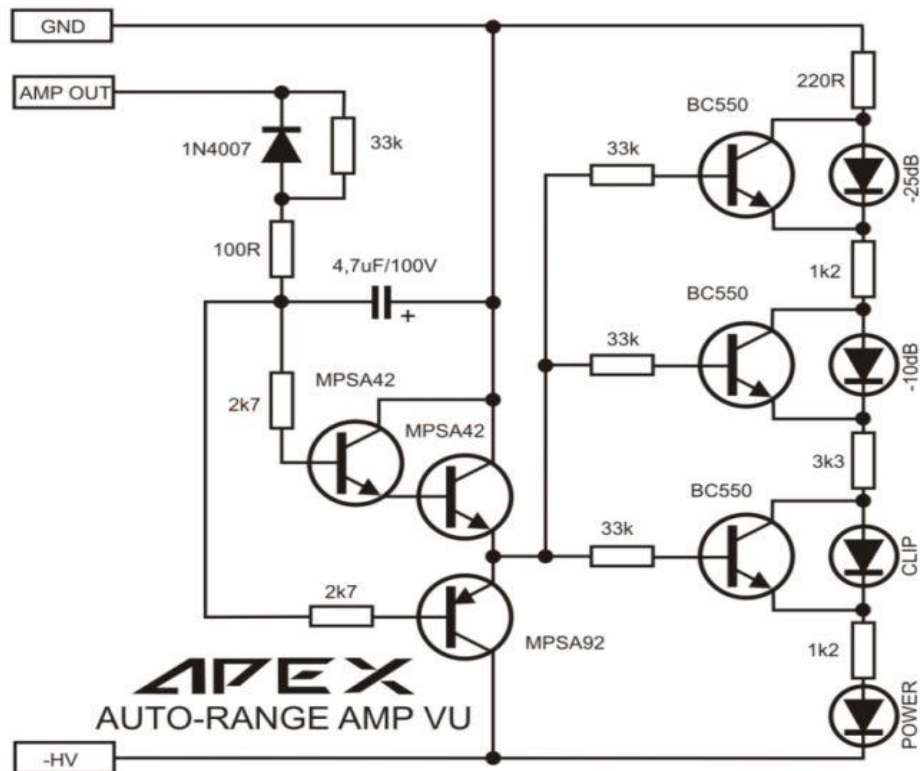
odwo dięer pikap 02-01 G-902fs



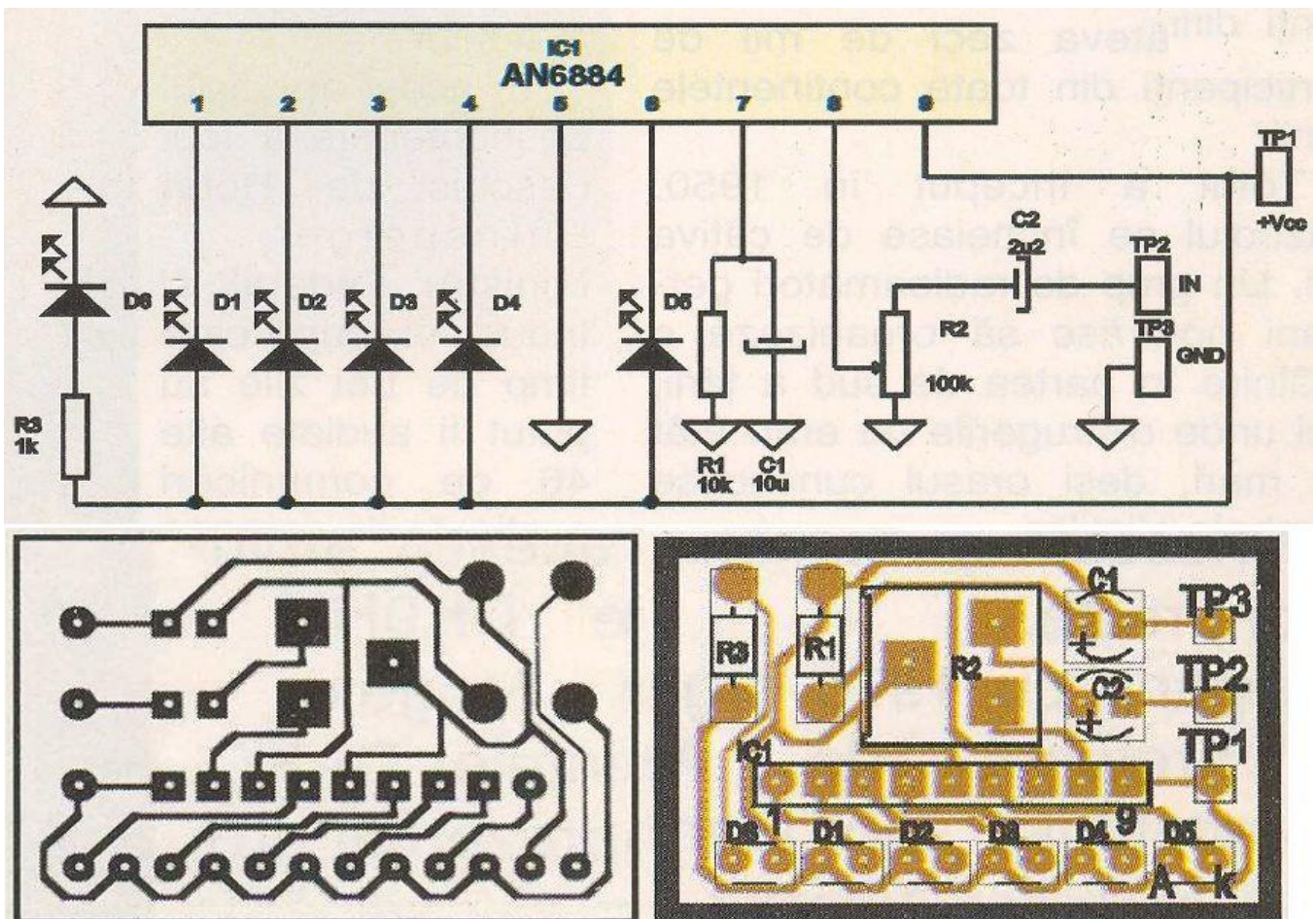
odwo dięer pikap 06-01 WG-550



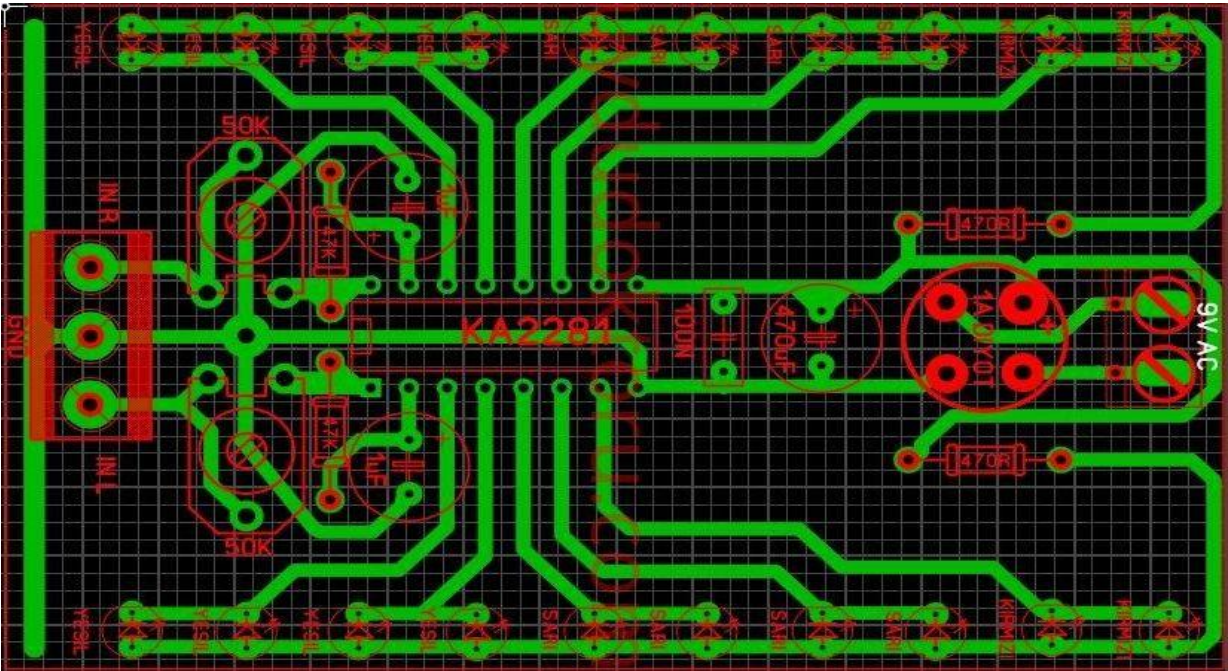
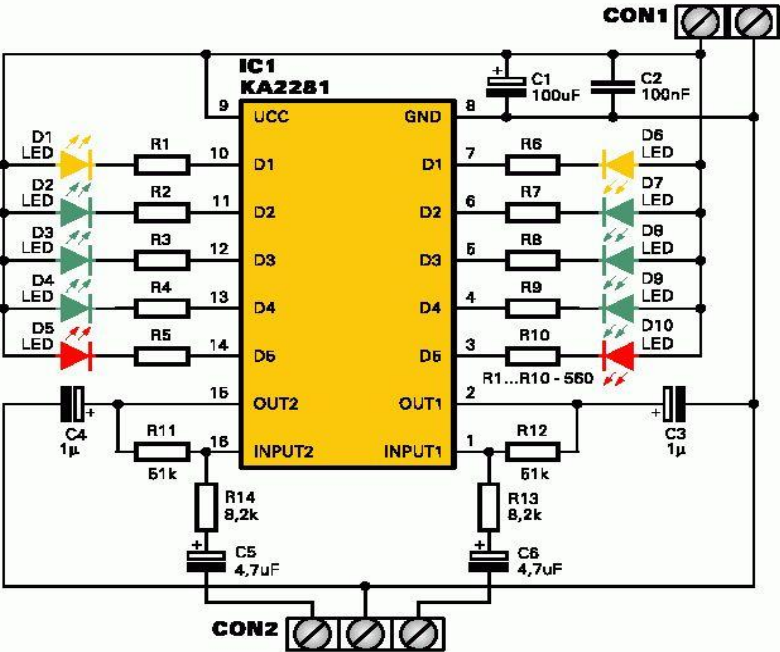
odyo digər vu level indikatör 01-01



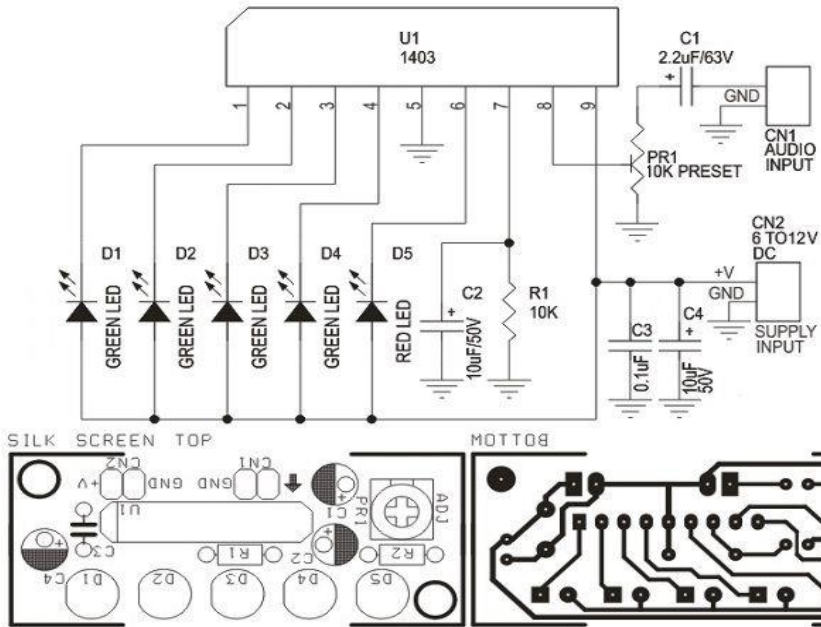
odyo digër vu metre 5 led 01-01 an6884



odyo diğər vu metre 5 led 02-01 ka2281 stereo

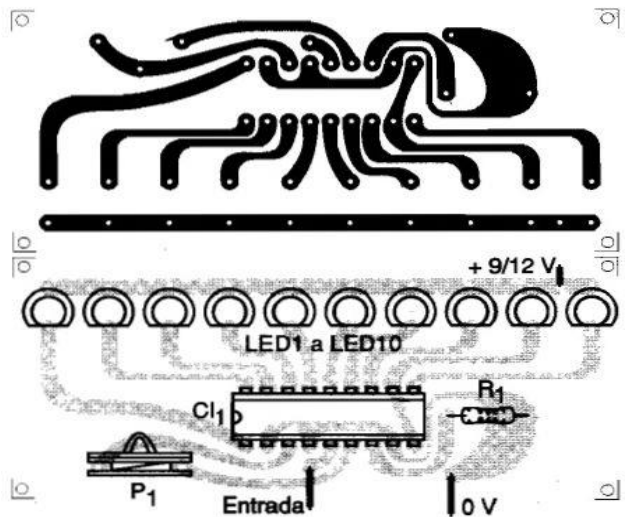
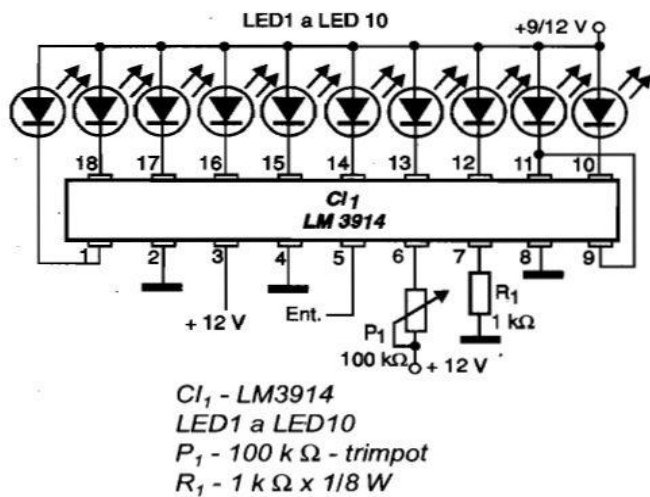


odyo diğər vu metre 5 led 03-01 1403

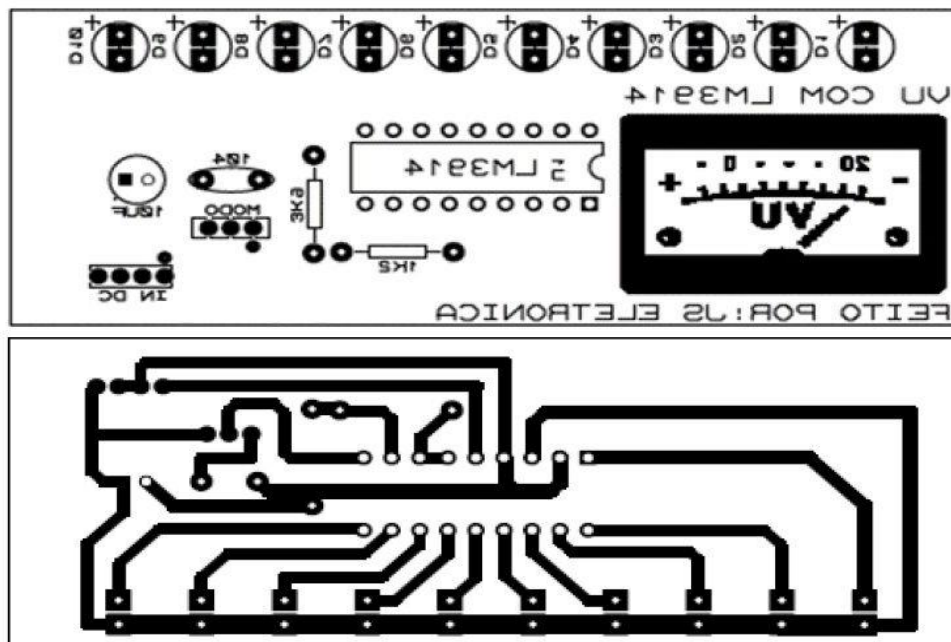


SR.	QTY.	REF.	DESCRIPTION
1	1	CN1	2 PCB PINS
2	1	CN2	2 PCB PINS
3	1	C1	2.2uF/50V OR 63V
4	2	C2,C4	10uF/50V OR 63V
5	1	C3	0.1uF
6	4	D1,D2,D3,D4	GREEN LED
7	1	D5	RED LED
8	1	PR1	10K PRESET
9	1	R1	10K
10	1	U1	LB1403 OR CH1403

odyo diğər vu metre 10 led 01-01 lm3914



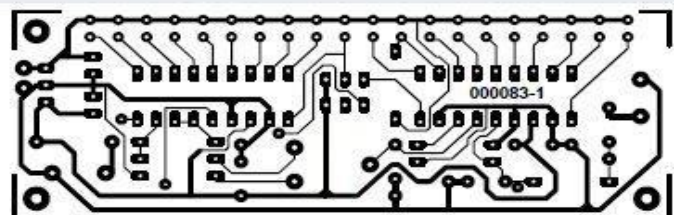
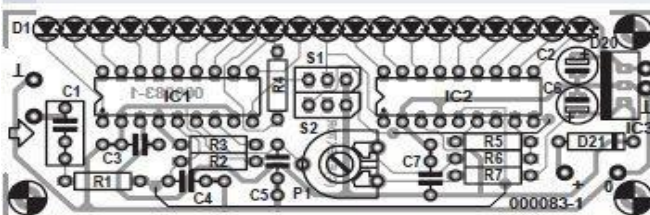
odyo diğər vu metre 10 led 02-01 lm3914



odyo diğər vu metre 10 led 03-01 lm3915 stereo

Table 1.

Loudspeaker	4 Ω	4 Ω	4 Ω	8 Ω	8 Ω	8 Ω	16 Ω	16 Ω	16 Ω
Power	10 W	50 W	100 W	10 W	50 W	100 W	10 W	50 W	100 W
R1	2.7 kΩ	18 kΩ	30 kΩ	6.8 kΩ + 1.1 kΩ	30 kΩ	47 kΩ	15 kΩ	47 kΩ	68 kΩ + 2.2 kΩ
C4	2.2 nF	470 pF	330 pF	1 nF	330 pF	330 pF	470 pF	330 pF	270 pF



COMPONENTS LIST

Resistors:

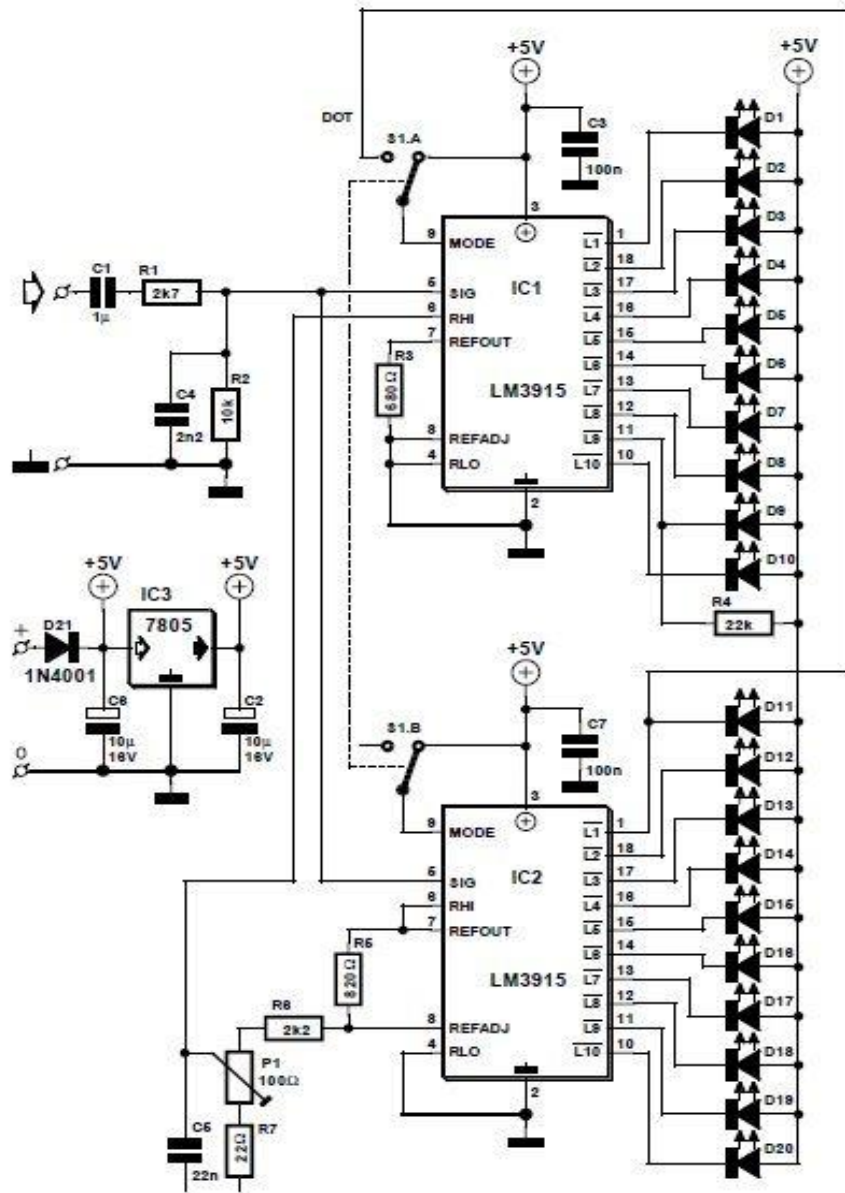
R1 = 2kΩ27 (see text)
R2 = 10kΩ
R3 = 680Ω
R4 = 22kΩ
R5 = 820Ω
R6 = 2kΩ22
R7 = 22Ω
P1 = 100Ω

Capacitors:

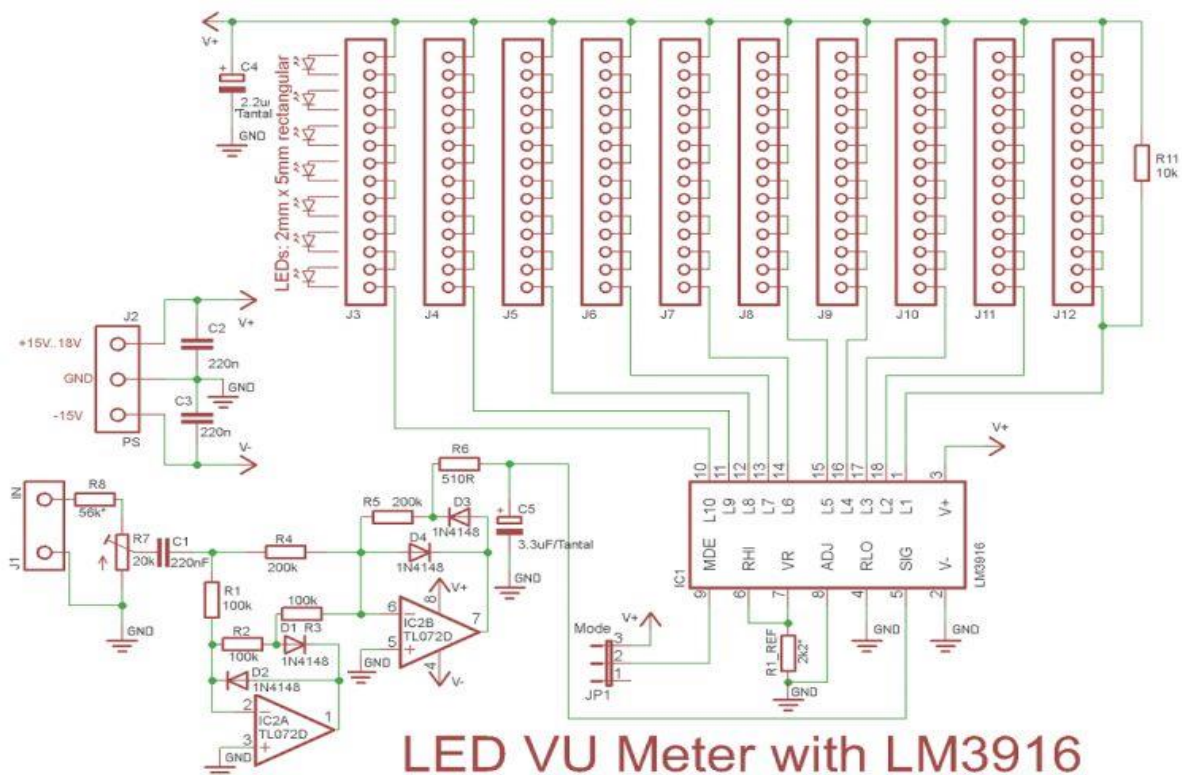
C1 = 1μF 63V (MKS, MKC)
C2, C6 = 10μF 16V radial
C4 = 2nF2 (see text)
C3, C7, C9 = 100nF
C5 = 22nF

Semiconductors:

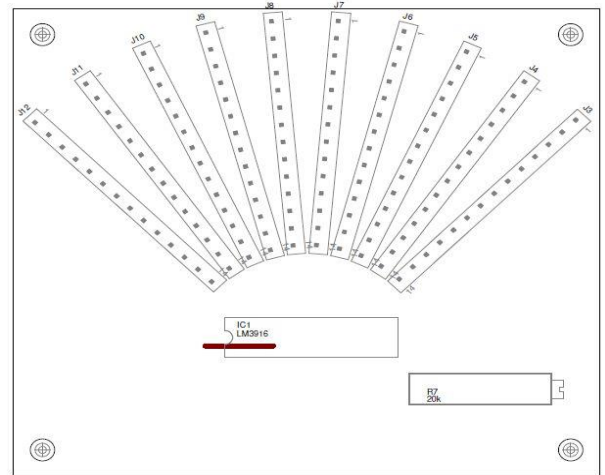
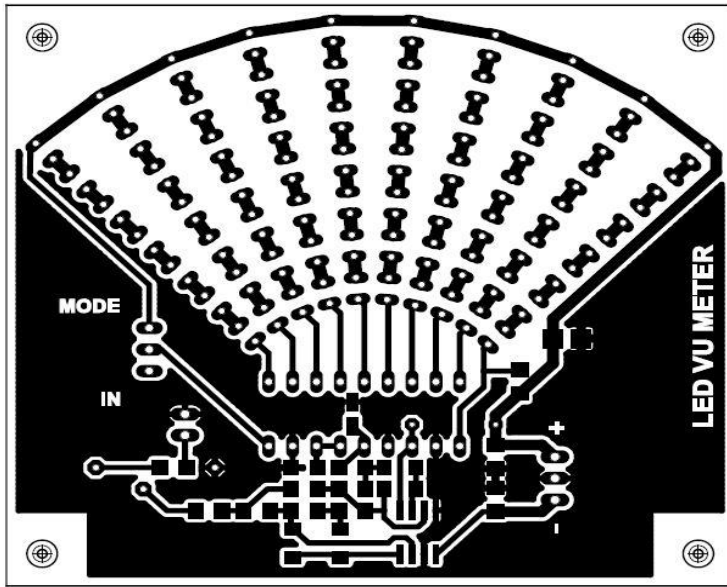
IC1, IC2 = LM3915N
IC3 = LM7805
D1-D20 = LED



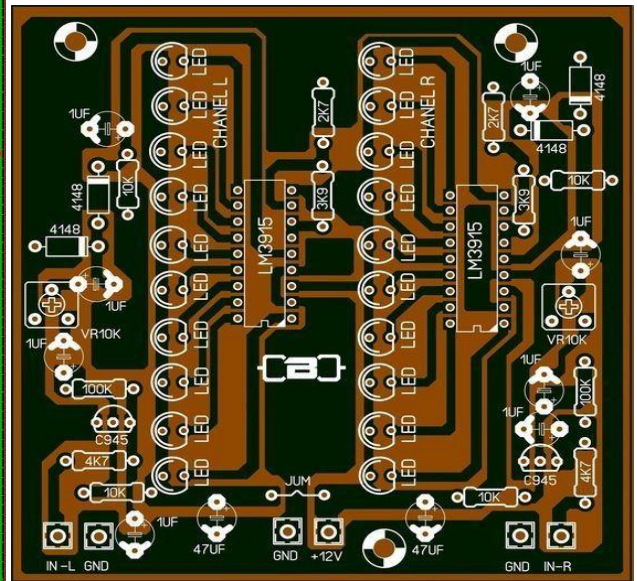
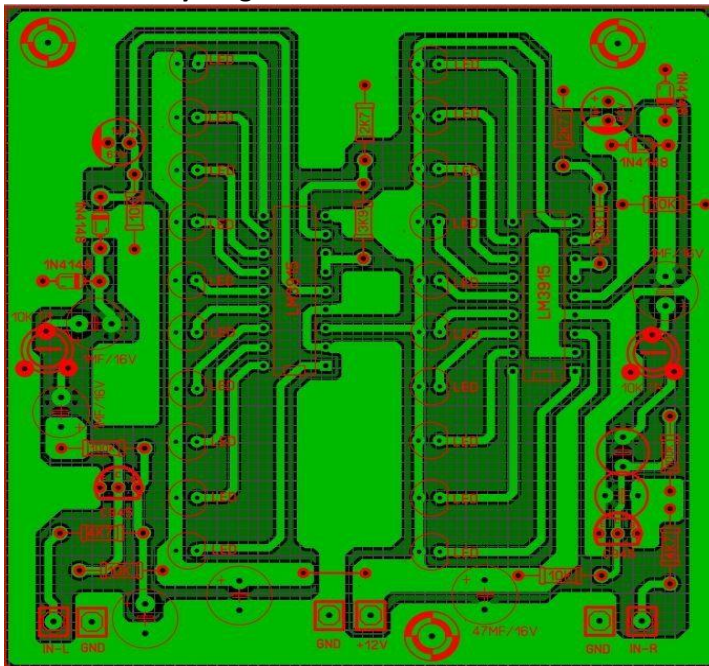
odyo diğ er vu metre 10 led 04-01 lm3916



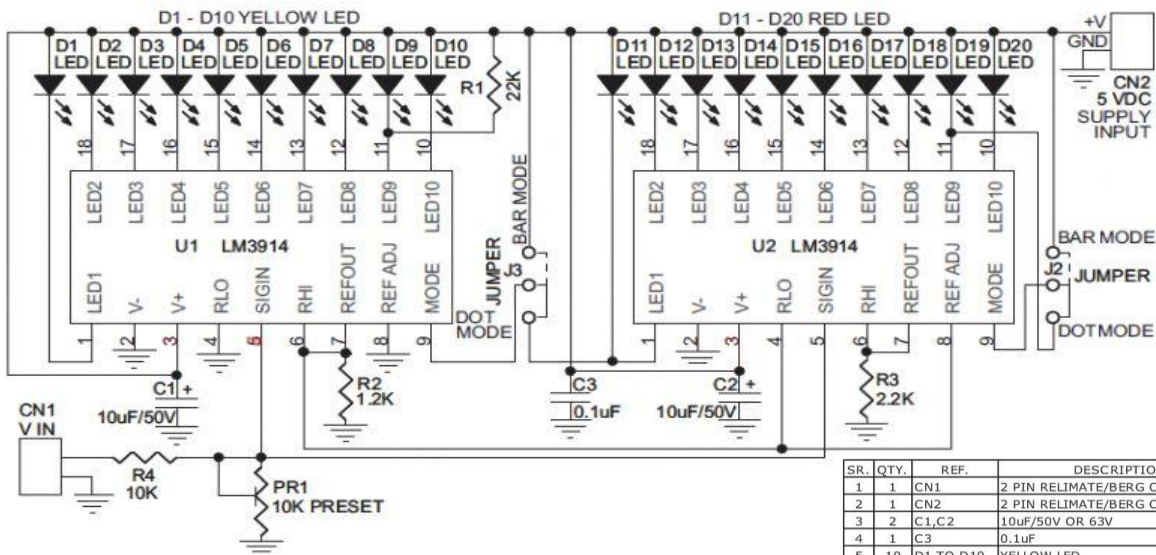
LED VU Meter with LM3916



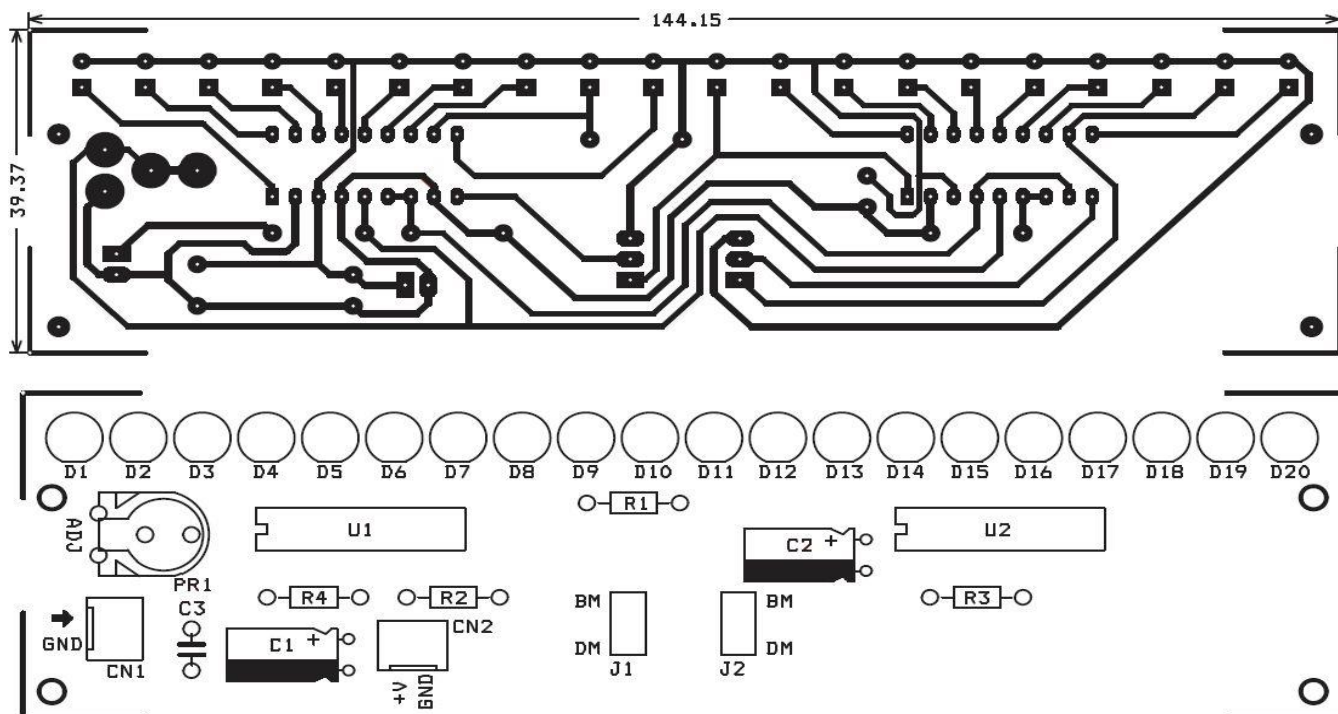
odyo digər vu metre 10 led 05-01 lm3915 stereo



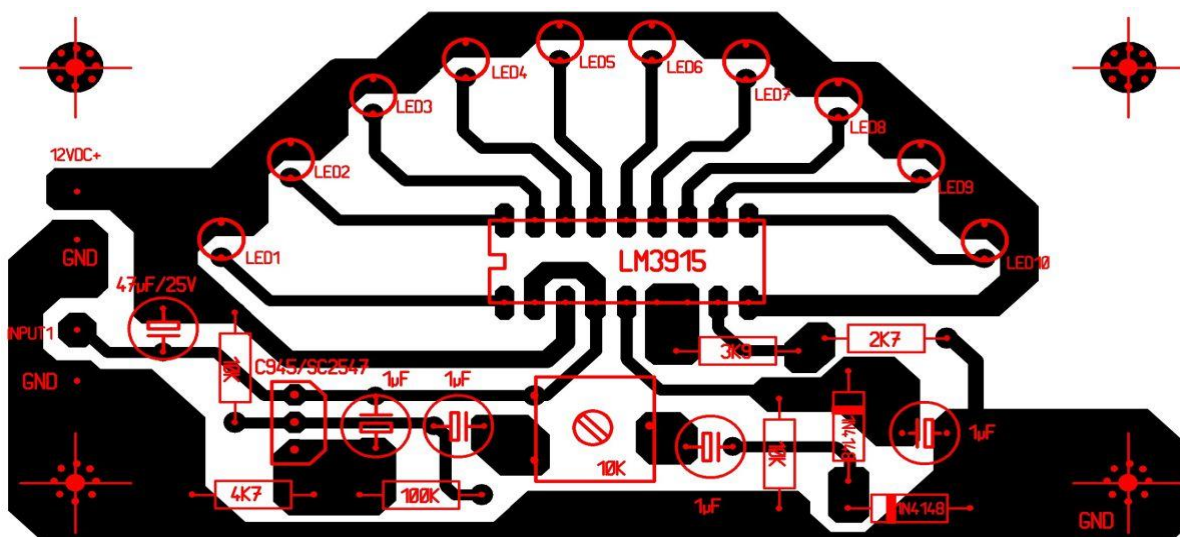
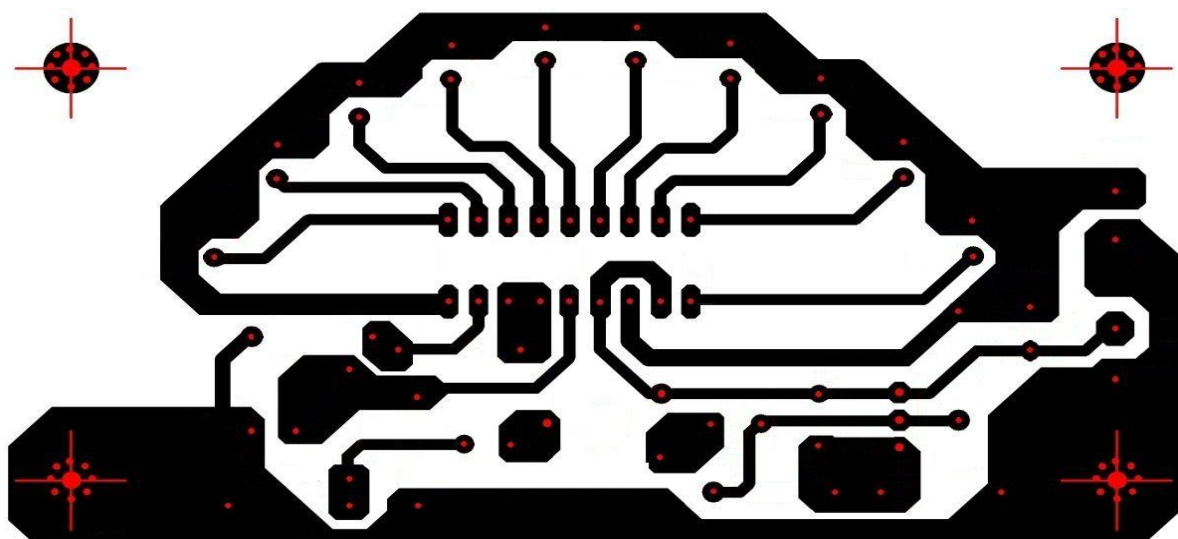
odyo digər vu metre 10 led 06-01 lm3914 stereo



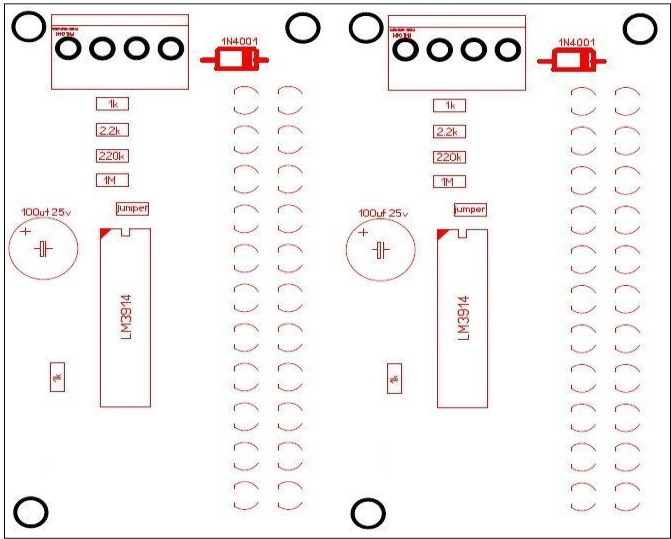
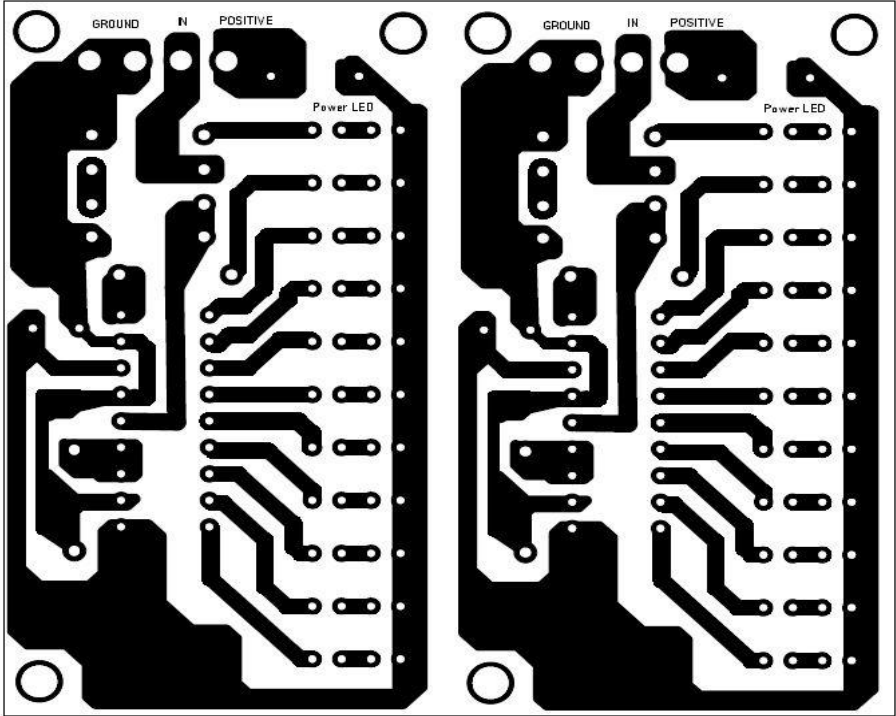
SR.	QTY.	REF.	DESCRIPTION
1	1	CN1	2 PIN RELIMATE/BERG CONNECTOR
2	1	CN2	2 PIN RELIMATE/BERG CONNECTOR
3	2	C1,C2	10uF/50V OR 63V
4	1	C3	0.1uF
5	10	D1 TO D10	YELLOW LED
6	10	D11 TO D20	RED LED
7	2	J2,J3	3 PIN JUMPER WITH CLOSER
8	1	PR1	10K PRESET
9	1	R1	22K
10	1	R2	1.2K
11	1	R3	2.2K
12	1	R4	10K
13	2	U1,U2	LM3914
14	2	SOCKET	18 PIN DIP IC SOCKET



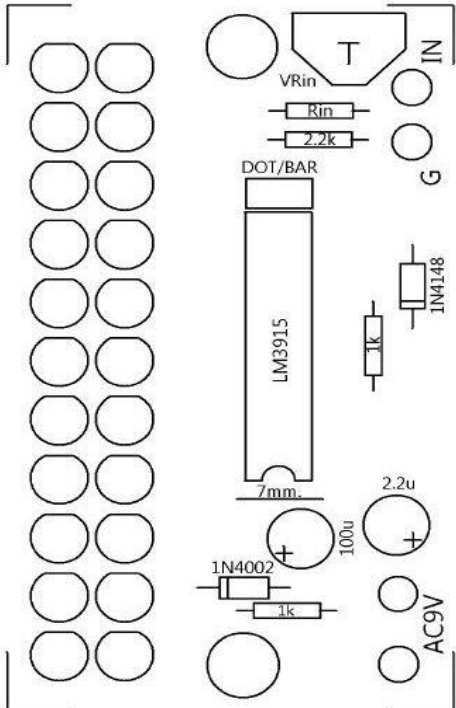
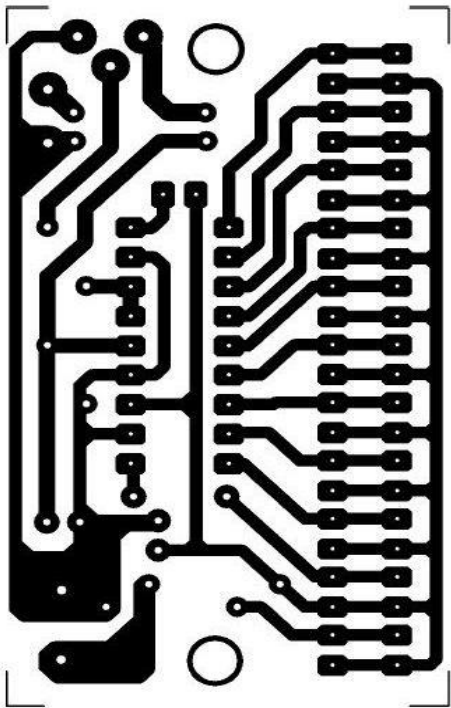
odyo diğər vu metre 10 led 07-01 lm3915



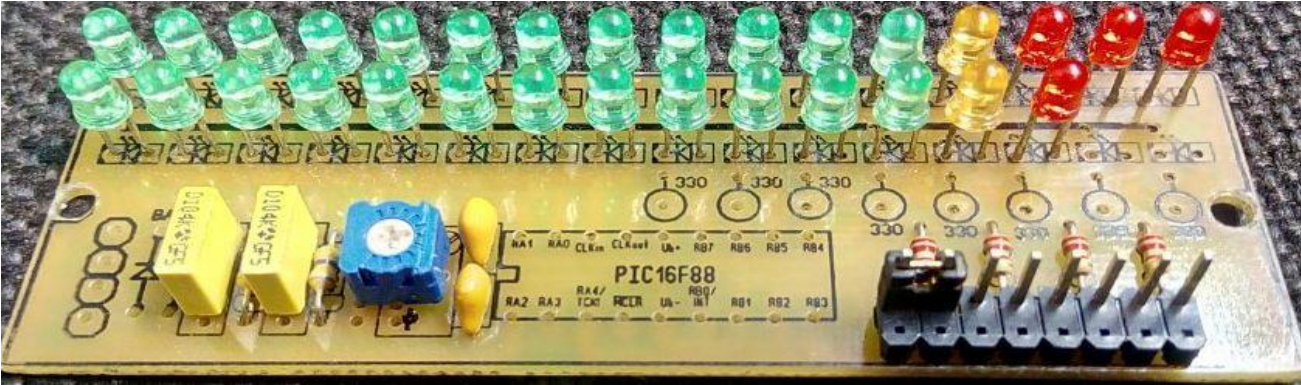
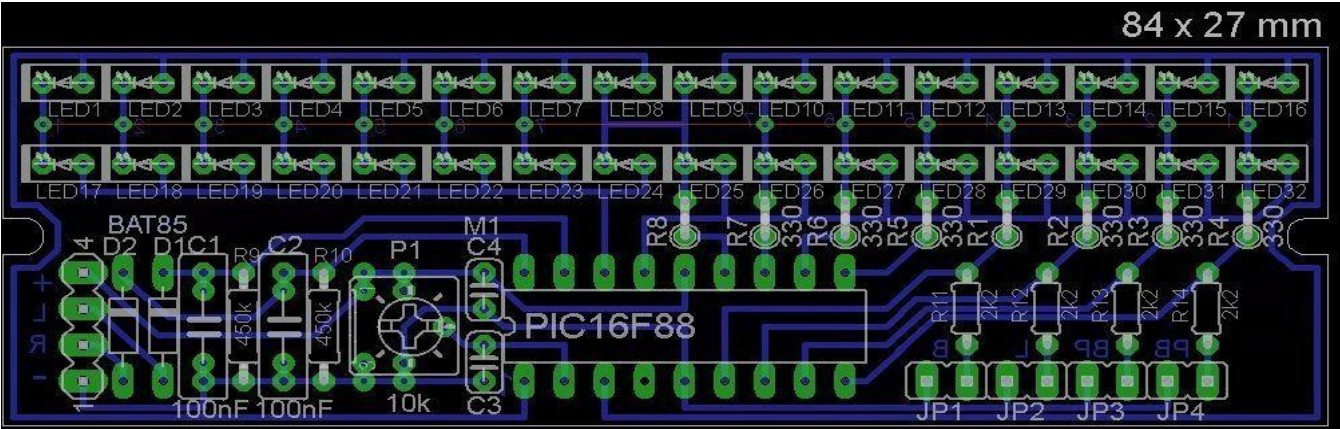
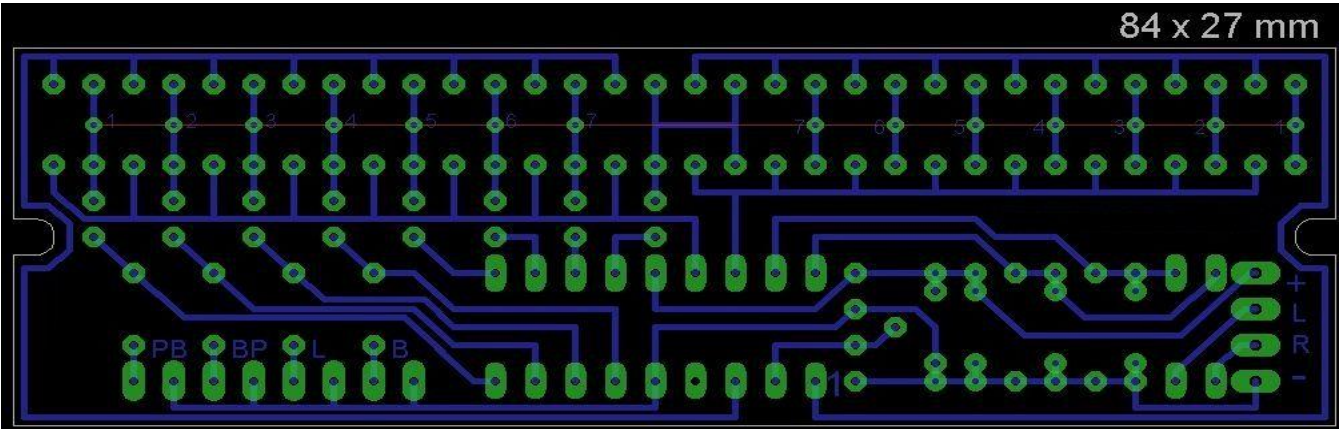
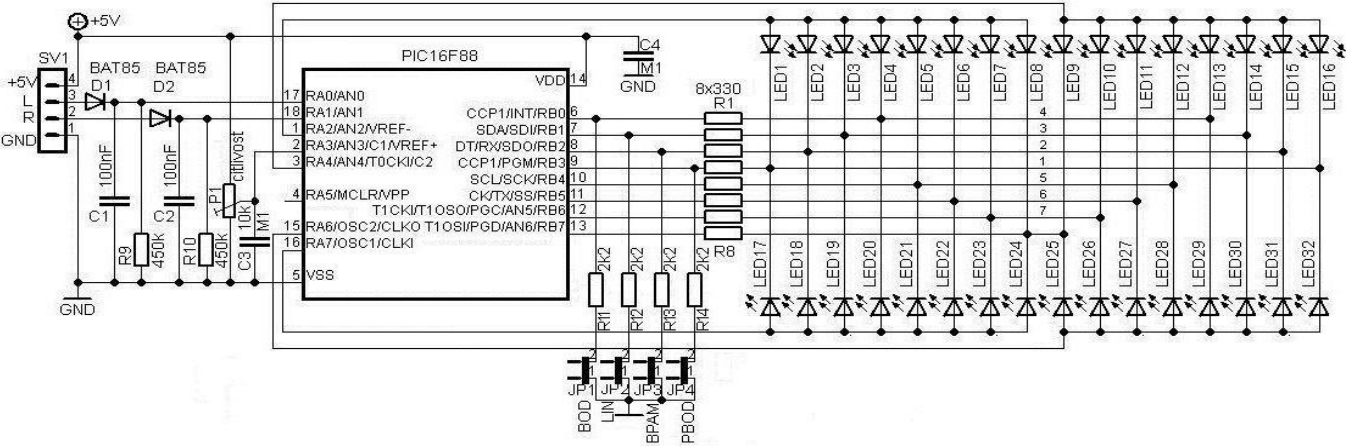
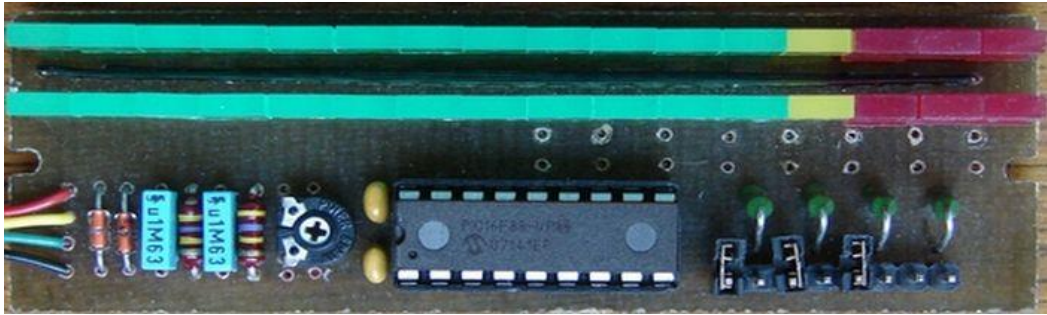
odyo diğer vu metre 11 led 01-01 lm3914



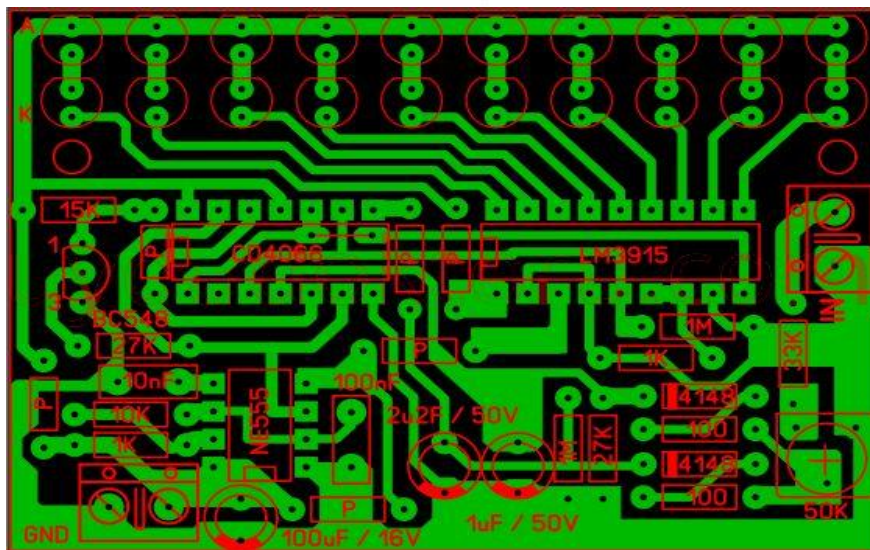
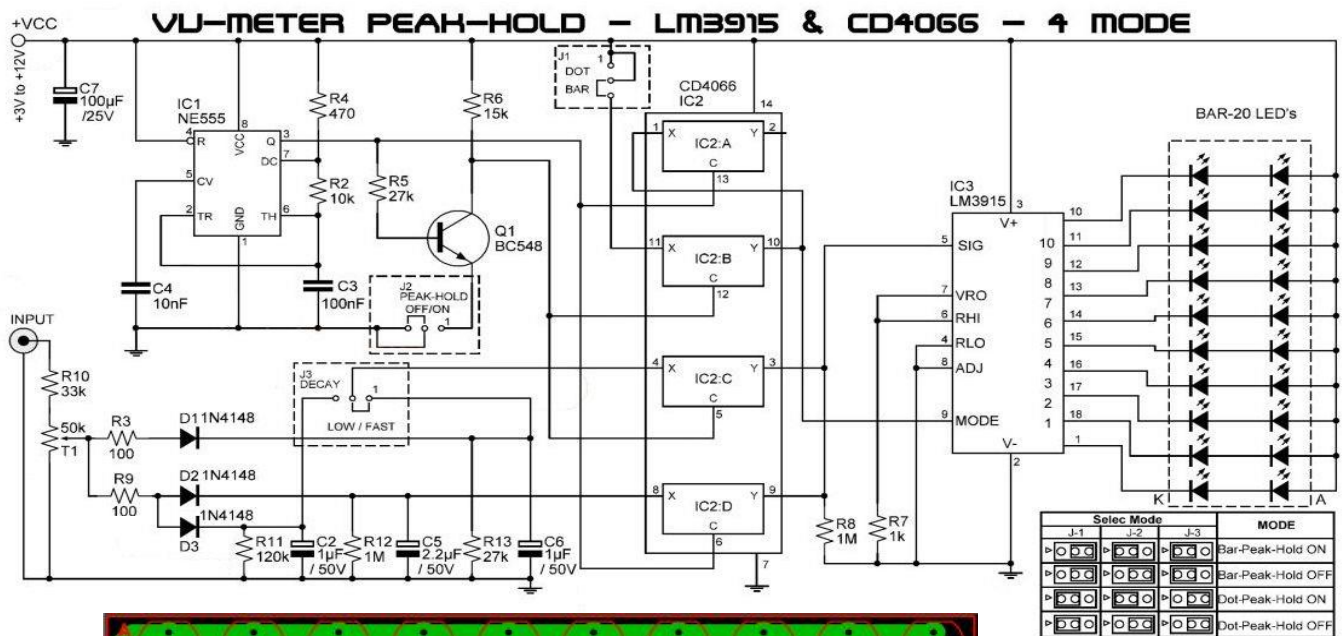
odyo diğer vu metre 11 led 02-01 lm3915



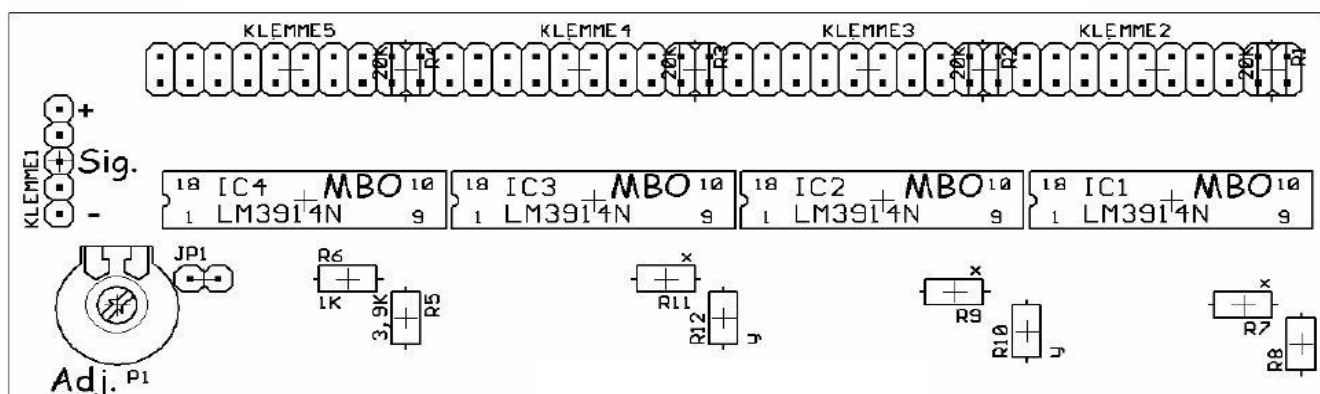
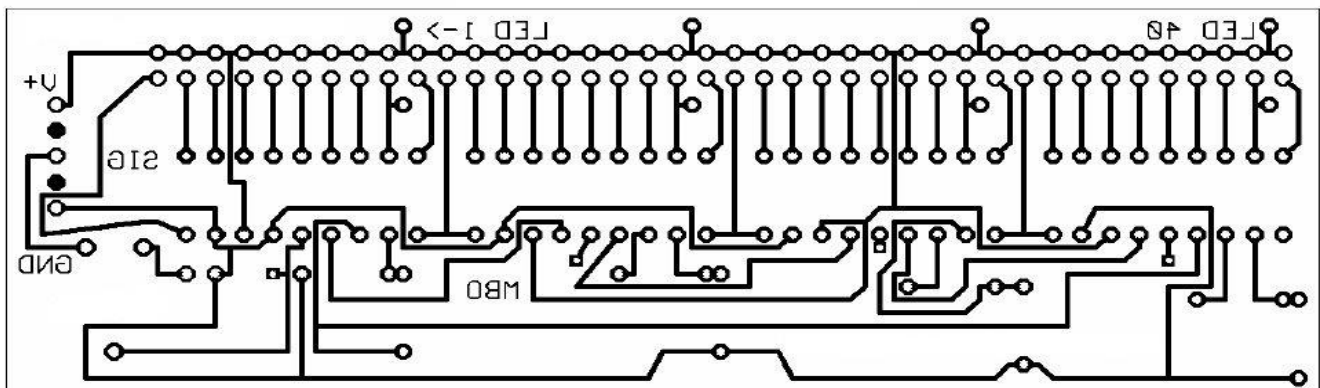
odyo diğەر vu metre 16 led 01-01 pic16f88

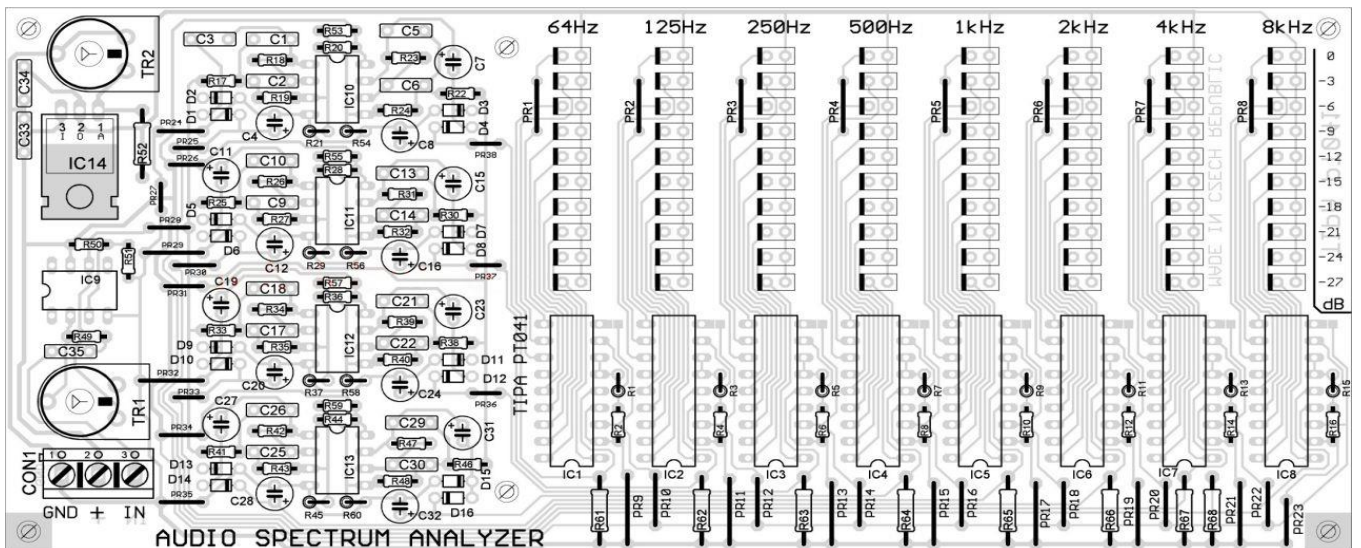
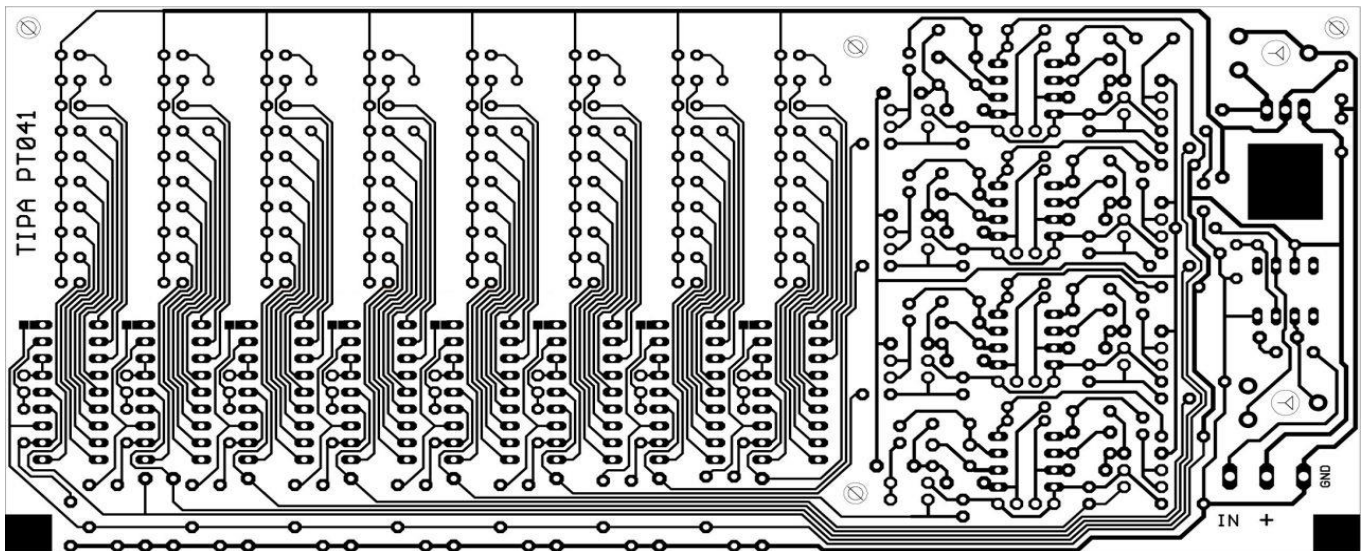
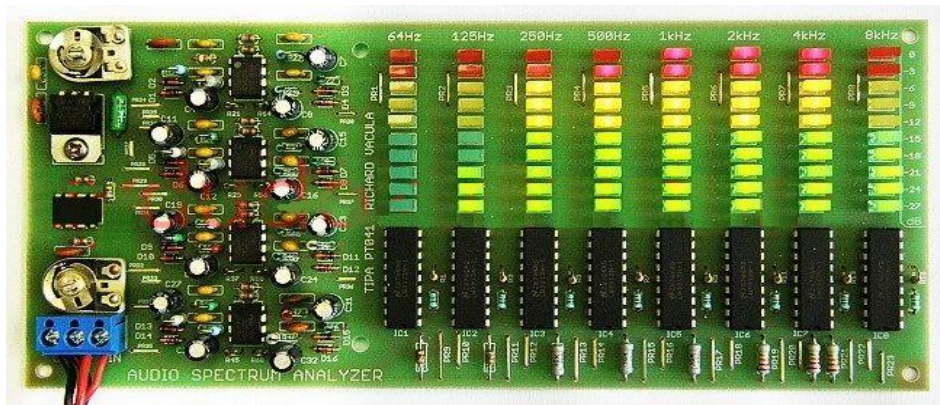


odyo diğer vu metre 20 led 01-01 lm3915



odyo diğer vu metre 40 led 01-01 lm3914n

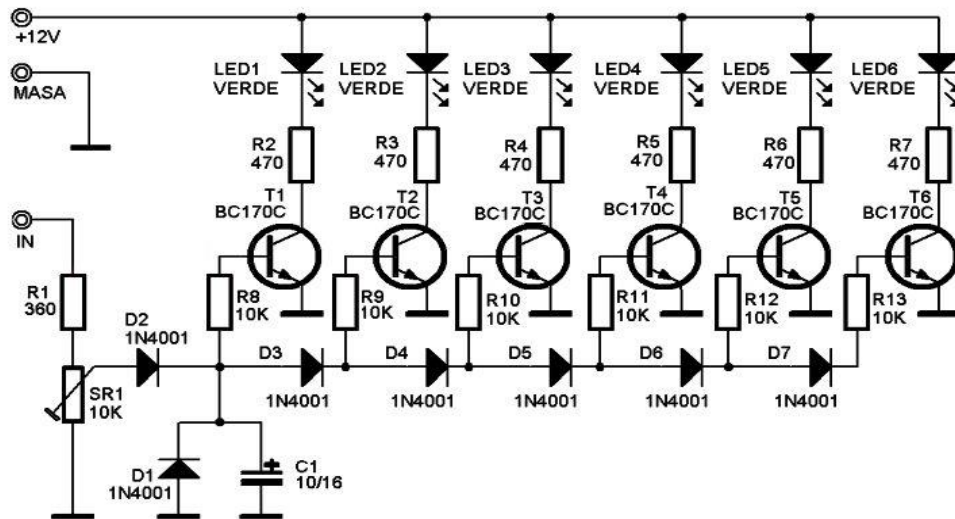




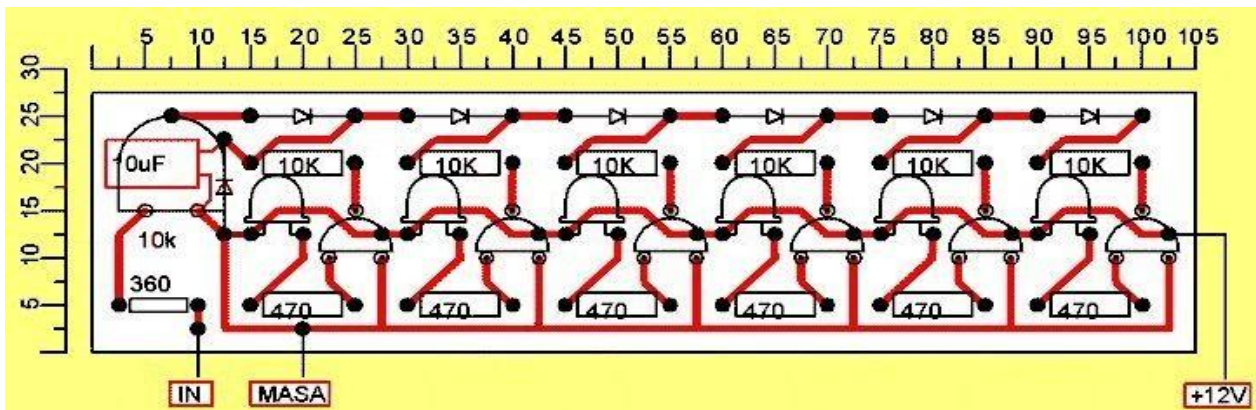
AUDIO SPECTRUM ANALYZER

R1, R3, R5, R7, R9, R11, R13, R15	1k2	mini	TR1	680k	TP112
R2, R4, R6, R8, R10, R12, R14, R16	910	mini	TR2	6k8	TP012
R17	20k		C1, C2	10n	keramický 5mm
R18	39k		C3	100n	keramický 5mm
R19	100		C4, C11, C12, C20, C24, C28, C32	1u /16V	elektrolyt
R20, R21, R28, R29, R36, R37, R44	4k7	mini	C5, C6	330n	keramický 5mm
R45, R49, R50, R51, R53-R62	4k7	mini	C7	100u/16V	elektrolyt
R22	75k		C8, C15, C16, C23	47u/16V	elektrolyt
R23	150k		C9, C10, C17, C18, C25, C26	47n	keramický 5mm
R24	390		C13, C14, C21, C22	220n	keramický 5mm
R25	8k2		C19	4u7/16V	elektrolyt
R26, R33	16k2		C27, C31	22u/16V	elektrolyt
R27	43		C29, C30	68n	keramický 5mm
R30	56k		C33, C35	100n	keramický 5mm
R31	120k		C34	1u	keramický 5mm
R32	301		D1-D16	1N4148	
R34, R41	33k		IC1-IC8	LM3915	
R35	82		IC9	TL071	
R38	30k		IC10-IC13	TL072	
R39	56k		IC14	LM317	
R40	150		LD1-LD5 ... LD81-LD85	Green LED 5x2mm	
R42	68k		LD6-LD8 ... LD86-LD88	Yellow LED 5x2mm	
R43	160		LD9-LD10 ... LD89-LD90	Red LED 5x2mm	
R46	47k		Svorkovnice	AK500/2	
R47	91k		Patice DIL8	5x	
R48	240		Patice DIL18	8x	
R52	252		Plošný spoj	PT041	
R63-R65	36k				
R66-R68	22k				

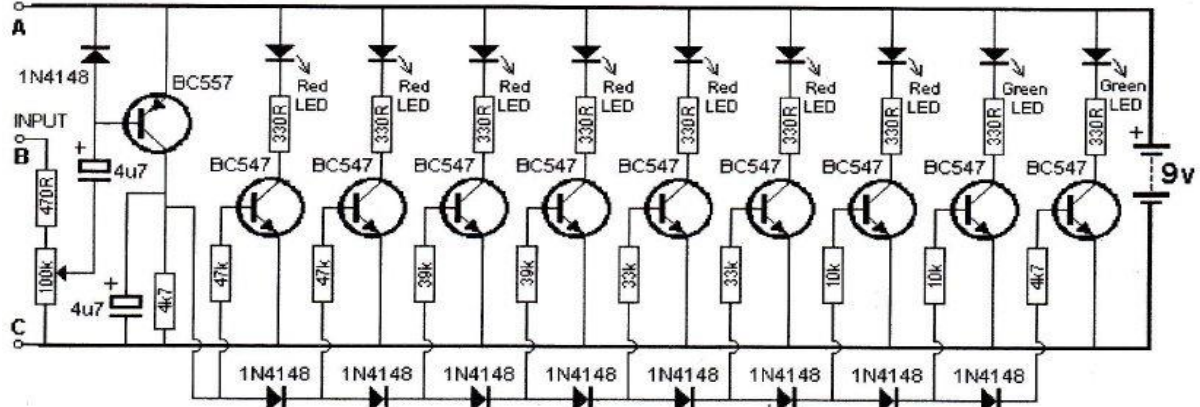
odyo diğer vu metre tr 6 led 01-01



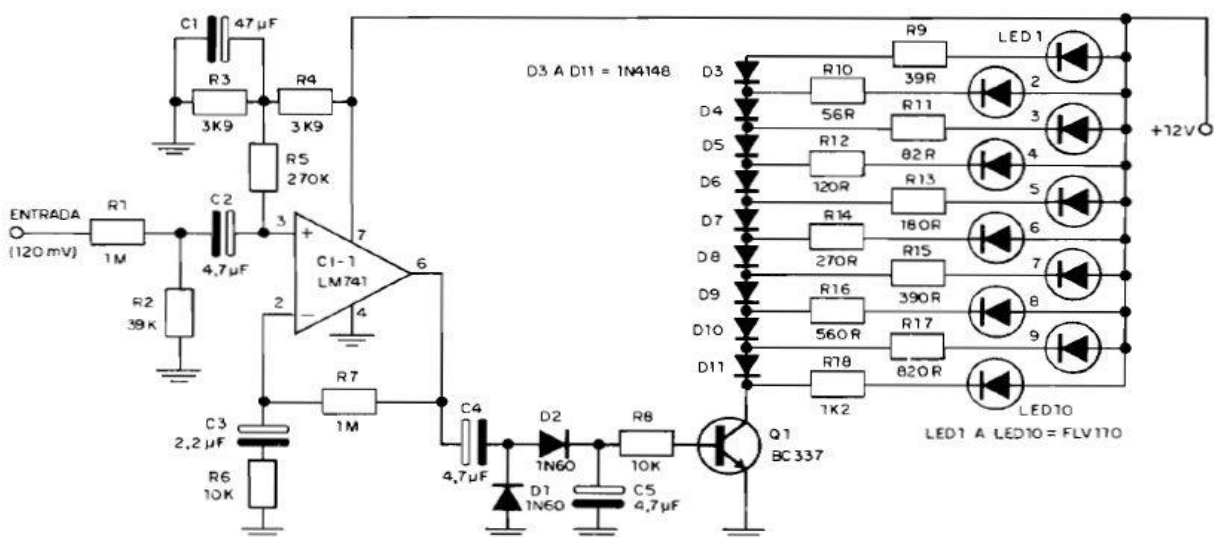
odyo diğer vu metre tr 6 led 01-02

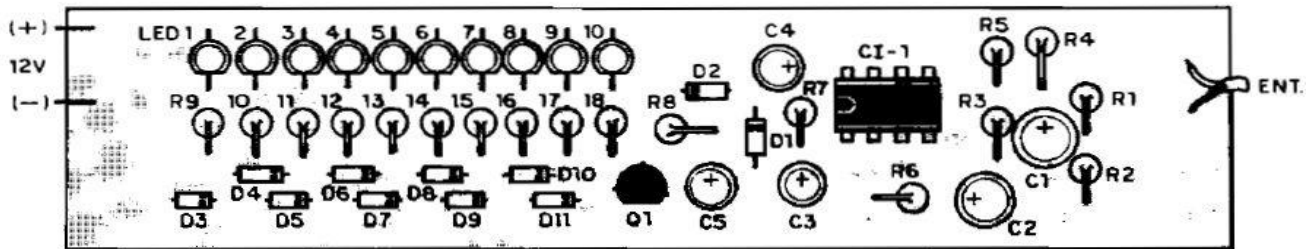
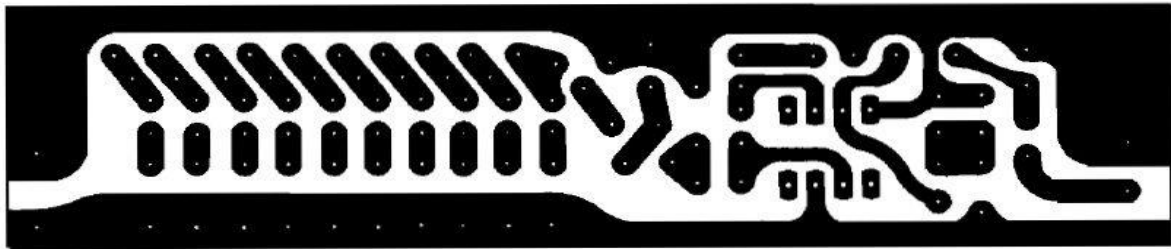


odyo diğer vu metre tr 9 led 01-01



odyo diğer vu metre tr 10 led 01-01





odyo diğer vu metre tr 10 led 02-01

